

FINE ARTS

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FEBRUARY 1958

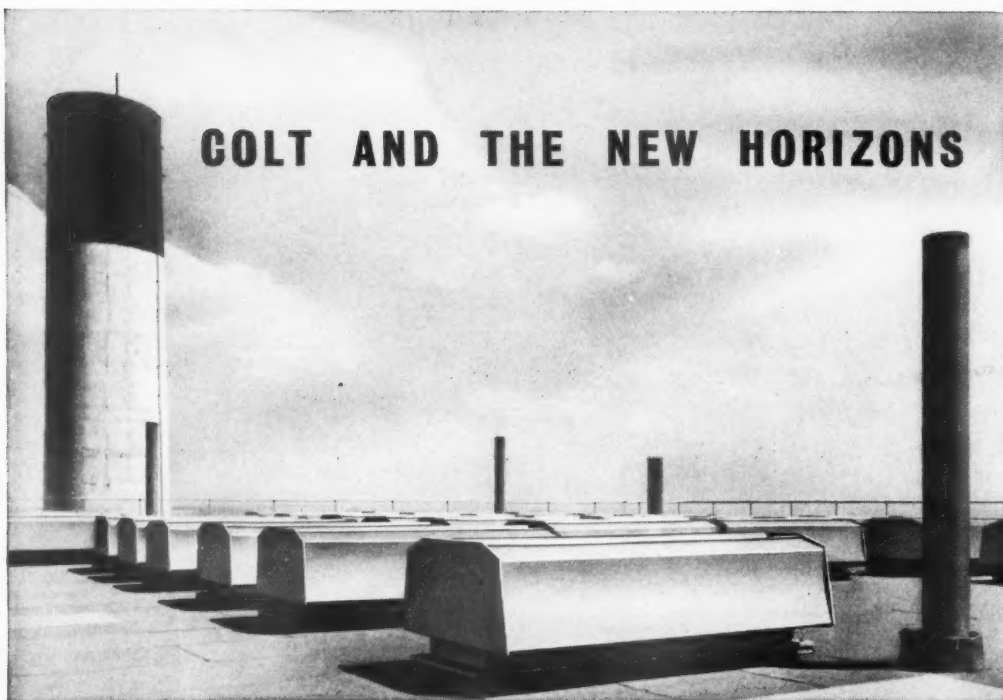
THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1 · THREE SHILLINGS AND SIXPENCE



Library Court, The University Elementary School, University of California, Los Angeles

Photograph: Julius Shulman



*The Kemsley Power Plant, Bowater Paper Corporation.
Architects: Farmer & Dark.*

*Colt Equipment: 32 S.R.C.3080 Ventilators.
Consulting Engineers: Ewbank & Partners Limited.*

Just as the squat, smoke-belching power houses of the industrial revolution have given way to power plants of such orderly austerity as those that serve the Bowater Organisation, so has the demand for more positive control over the ventilation of these buildings grown stronger. The provision of effective, controllable ventilation called for a revolution in ventilator design. The precise, aerodynamic lines of the Colt SR Extractor, shown above, epitomise the achievements of that revolution.

In this photograph of the Bowater Power Plant at Kemsley near Sittingbourne in Kent, 32 Colt S.R.C.3080 Controllable Natural Extractors are

utilising to the full the free power of the wind and thermal currents to change the air in the building 10 times in each hour. The effect of this is to ensure the maintenance of temperate, fume-free conditions demanded by modern industry, and without which maximum output can never be achieved.

The careful attention to detail that went to the formulation of this, and of the other similar systems at the Bowater Mills in Northfleet and Ellesmere Port, is common to every ventilation scheme, large and small, that Colt undertake. The technical service of the Advisory Staff is always available without charge or obligation. Let Colt solve YOUR problem.



Send for Free Manual on Colt Ventilation to Dept. AF 21/2

VENTILATION

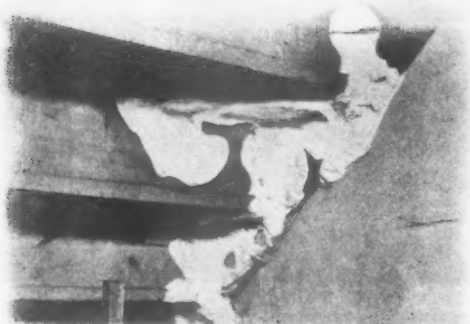
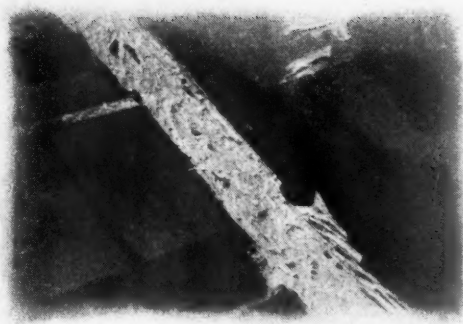


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*U.S.A. Subsidiary: Colt Ventilation of America, Inc., Los Angeles.
Branches at: Birmingham, Bradford, Bridgend (Glam), Bristol, Dublin, Glasgow, Leamington Spa, Liverpool, London, Manchester, Newcastle-upon-Tyne, and Sheffield. • Agents in: Australia, Belgian Congo, Belgium, Burma, Canada, Cyprus, India, Indonesia, Madagascar, Malaya, Mauritius, New Zealand, Pakistan, Portugal, Rhodesia and Nyasaland, South Africa, and West Indies.*

G. 995A



When you find
WOODWORM OR DRY ROT
Please remember that there is a special service to help you

FREE ADVICE

Over 30 years' experience in the identification and treatment of woodworm and dry rot has given us a unique understanding of these problems, and we should like to place our knowledge at your service. This Centre is available to advise and help with specific problems at any time.

FREE IDENTIFICATION

Some of the lesser-known species of wood boring beetles and wood rotting fungi are often difficult to identify and may require special treatment. In all cases our technical staff will be pleased to help, and specimens of insects or samples of wood can be sent to this Centre for identification.

SPECIALIST SURVEYS

The surveying of timbers where woodworm or dry rot is suspected takes considerable time and we can help you in such cases. We suggest you instruct our specialist staff to carry out the inspection on your behalf, submitting to you a full report of the type and extent of attack. This is particularly useful where house purchase or valuation is concerned.

TREATMENT UNDER GUARANTEE

An estimate can be given for the complete extermination of woodworm or dry rot by trained operatives. A 20 year guarantee is given on all work undertaken. This indemnifies the owner against any reinfestation, and in the very unlikely event of this occurrence the property will be re-treated without charge. This guaranteed service operates from 40 Centres throughout the U.K.

THE SPECIAL SERVICE FOR ARCHITECTS & SURVEYORS

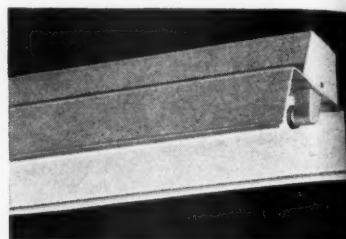
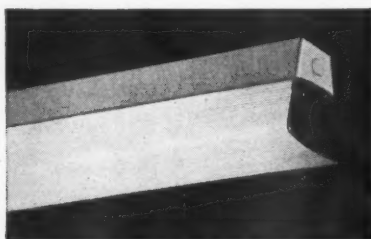
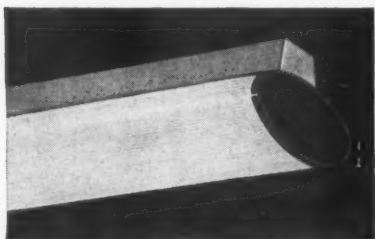
Please write, call or telephone Dept. B.A.5 The

WOODWORM AND DRY ROT CENTRE



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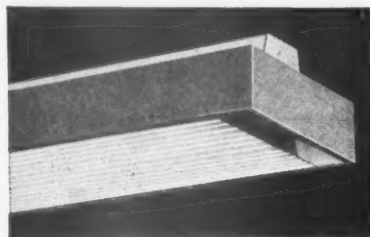
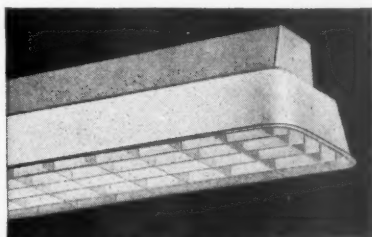
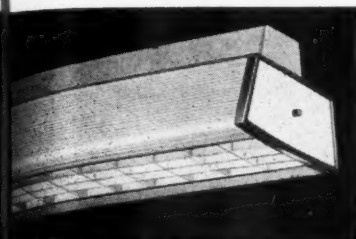


what's so new about fluorescent fittings



THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.

ut these g anyway?



Everything is new! The '101 Range' is an entirely new range of contemporary styled industrial, commercial and decorative fluorescent fittings.

The successful result, in fact, of team work between G.E.C. fittings designers and illuminating engineers. Competitively priced—outstandingly modern in conception!

NEW also is the introduction of basic channels for single or twin tubes, 1½ ft. to 8 ft. which, with specially designed attachments, form an interchangeable system of great versatility with particularly simple installation and maintenance.

It is important that you learn all about this exceptional range—the '101 Range'—of G.E.C. fluorescent fittings, so write for fully descriptive catalogue No. F 4068.

new adaptability

The G.E.C. '101 Range' sets a new standard of adaptability. Using as a basis, channels of common cross section, industrial, commercial and decorative fittings are built without a multitude of small parts. Each is a soundly engineered fitting, of modern appearance and incorporates many aesthetic and mechanical refinements. Installation and maintenance are absolutely simple.

new reflectors

For the first time the industrial user can have vitreous enamelled closed end trough reflectors made from a single pressing, with well-rounded corners and without joints. They are therefore particularly easy to clean. New techniques enable them to be made lighter than previous types and therefore easier to handle and less susceptible to damage.

new 8 ft. tubes

Recessed double contact (R.D.C.) caps are fitted to OSRAM 8 ft. 125 w. tubes for use in the '101 Range'. This new cap design protects the tube ends and allows replacement by one person from one ladder position. Recessed double contact caps also provide firm, reliable support and location for these tubes without relying on contact pins or independent clips. This results in easier tube replacement after cleaning or maintenance. Unsightly shadows are reduced, as the new cap gives a smaller "dead region" at tube ends. Osram Guaranteed Tubes, with their freedom from early failures, are recommended for all G.E.C. lighting fittings.



fluorescent fittings

THE REALITY OF A COMPLETE LIGHTING SERVICE

... now we are proud to announce
the NEW

CARTER DOLPHIN

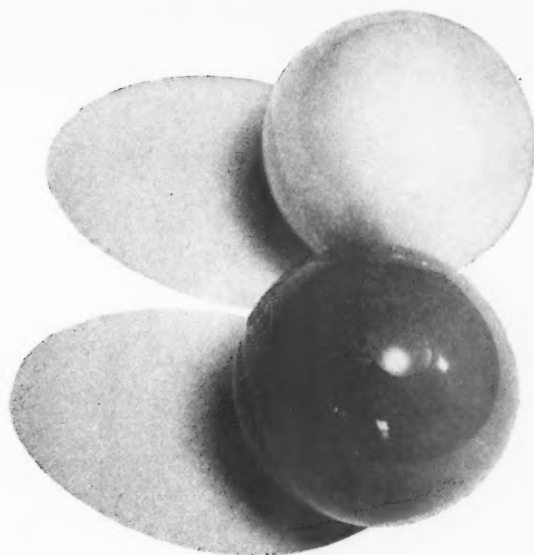
COLOURED

A superlative additional range of coloured glazed wall tiles to
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*Boxes containing samples
of these tiles will gladly
be sent on request.*

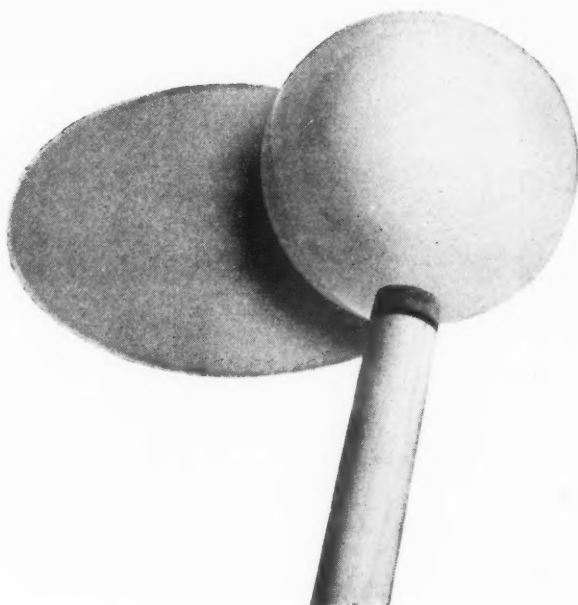
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Snookered? Have you an extremely difficult flooring problem on your mind — a problem on which you do not seem to make any positive progress? If you are in such a position, we suggest that you do as many Architects and Builders have done before you; have a word with us about it. Our service, and the speed at which we tackle the job will make it well worth while to. . .

Take your cue from

SIEGWART



PRECAST

FLOORS

AND

ROOFS

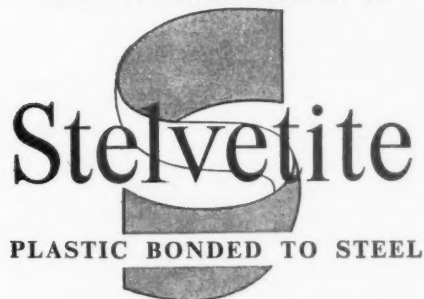
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an exciting new material which will revolutionise 1,001 industries

John Summers & Sons Limited are now making what is undoubtedly one of the most remarkable materials ever produced by the steel industry—STELVETITE—a sheet of steel *permanently* covered on one side with a sheet of specially formulated Velbex P.V.C. made by BX Plastics Limited. The plastic is a thick coating, not a film, available in an enormous variety of finishes and colours, and its qualities include durability, resistance to acids, grease, water, hard wear, kicks, scuffs and chipping. *But this is only the beginning.*

Stelvetite can be bent and shaped. *Its bending qualities are remarkable—even through 180 degrees. It can also be sheared, perforated and cut.*

Stelvetite can be deep drawn. *It is suitable for deep drawing and even extra deep drawing with the plastic surface inside or out.*

Stelvetite can be joined. *There are many ways of joining Stelvetite—even a special welding process which does not affect the plastic.*

The industrial possibilities of this revolutionary material are enormous. It is produced by a free enterprise company whose policy is one of continuous venture. Write to: John Summers & Sons Limited, Dept. MRD. 8 Shotton, Chester, for further details of Stelvetite.

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"ARMOURPLATE" Glass Doors
are now available with fittings for
interior use. For full details,
and of "ARMOURCAST" Glass Doors
write to the manufacturers,
Pilkington Brothers Limited, St. Helens,
Lancs or Selwyn House, Cleveland
Row, St. James's, London S.W.1.

PILKINGTON'S

"ARMOURPLATE" Interior Glass Doors

...and private offices

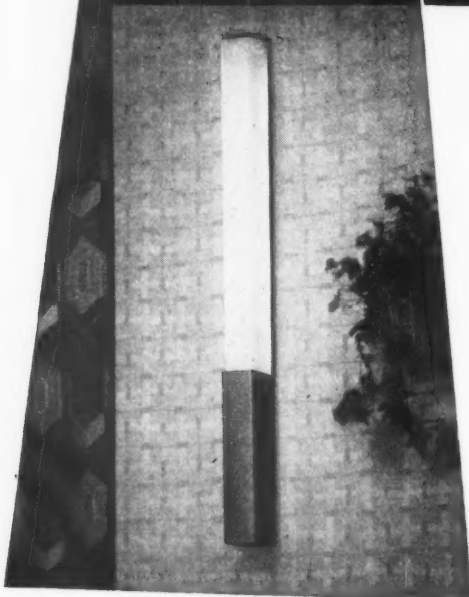


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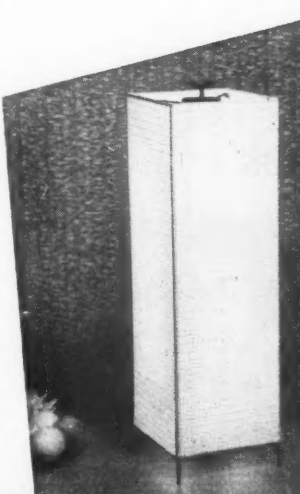
PILKINGTON'S
"ARMOURCAST" Interior Glass Doors

FLUORESCENT AND FANCY FREE!


A satisfying modern interior creates an atmosphere, often by the uninhibited use of some striking feature. Yet the most potent factor in establishing the mood is light and shade. There are, then, very good reasons why these new and exciting Atlas fittings will find a niche in many homes of today. For, with a fine feeling for form—without reference to the past—without concession to popular taste—the designers have combined new concepts with new materials to create four most evocative lighting fittings.




KVQ10020. A versatile fitting for one Atlas 2ft. 20w. fluorescent tube, for wall or ceiling mounting, with opal 'Perspex' diffuser, black spine and quickstart control gear housed in a flame coloured end cover.



KS12240. Pillar light for two Atlas 2ft. 40w. tubes. The black frame is covered with plastic coated linen. Control gear, separately housed in a neat box, is connected with 3ft. lead.



KR/2240. Pillarlight for two 2ft. 40w. tubes with mixed pink and clear 'Rotaflex' diffuser and black metal work. Base houses control gear.



KP12240. Another form of pillar light for two Atlas 2ft. 40w. tubes, with remote control gear. Tubes are housed in twin opal 'Perspex' diffusers with black metal work.

Atlas leads in lighting

Atlas Lighting Limited,

A subsidiary company of Thorn Electrical Industries Ltd., 233 Shaftesbury Avenue, London, W.C.2.





“Let's get out of here please!”

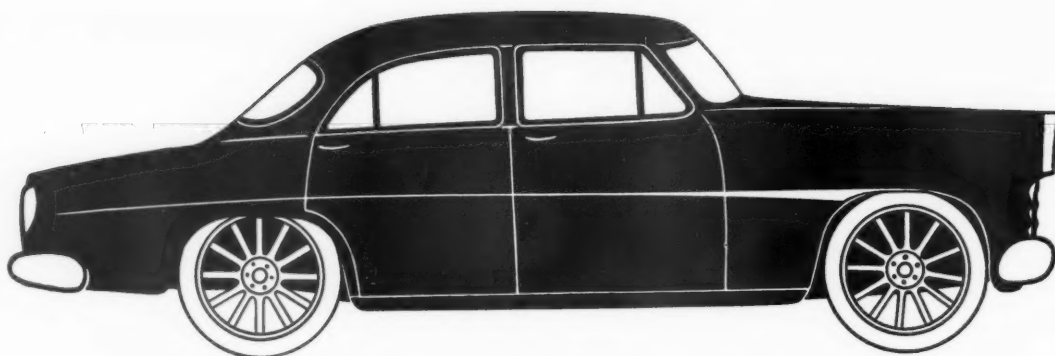
Can't blame him for preferring a run to a sit-down at the local. Even when what he's sitting ON is something as superb as a TRINASCOLIN Floor by Limmer & Trinidad. Everyone but him realises that here is modern decorative flooring at its best, beautiful in appearance and comfortable to the tread.

Laid by craftsmen, TRINASCOLIN produces a floor which is warm, resilient and completely trouble-free. It is available in several thicknesses and in many plain and marbled colours. If you would like technical literature on Limmer & Trinidad Decorative Floors (and on all other Limmer & Trinidad products) you only have to write.

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Putting the old with the new

Old style heating surface, with its network of pipes requiring valuable wall and floor space, gives the same effect to modern buildings as old style wheels on a 1958 car. They are out of place and certainly don't measure up to the efficiency of the latest developments.

Progressive architects believe in modern equipment for modern buildings, and enthusiastically accept the scope offered by Frenger, THE heated and acoustic ceiling.

Frenger radiates heat to fulfil the most exacting conditions for comfort in working spaces. It has a clean appearance and a healthy effect. Takes no floor or wall space. Gives an uninterrupted ceiling plane. Provides a perfect void for conduits, pipes, valves, duct work, etc., with flexibility for the introduction of lighting fittings in positions required, both recessed and pendant type. Each panel, being easily removed, is its own access to the ceiling void.

Write now to the Frenger Technical Sales Department for full particulars.

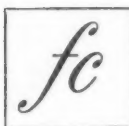
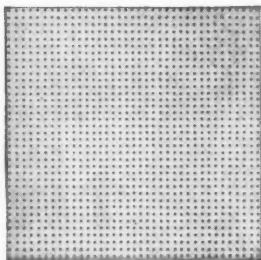


FRENGER heated and acoustic Ceilings

The Technical Service Laboratories at Egham, Surrey, of Shell Chemical Company Ltd.

(On right) interior of Surface Coatings Laboratory.

Architect: Philip Cranswick, A.R.I.B.A., A.M.T.P.J., of Walker, Harwood & Cranswick.



See the Frenger Ceiling display at the Building Centre.

FRENGER CEILINGS LTD. 7-12 TAVISTOCK SQUARE, LONDON, W.C.1. Phone: EUSTON 6084/8

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The steadily increasing demand for Thermalite-Ytong Insulating Building Blocks both for industrial buildings and for domestic architecture is a direct confirmation of the established position that this unique material has achieved.

THERMALITE-YTONG

Load bearing insulating building blocks

Thermal insulation

Load bearing

High speed of laying

Light weight

Workability

Direct fixing

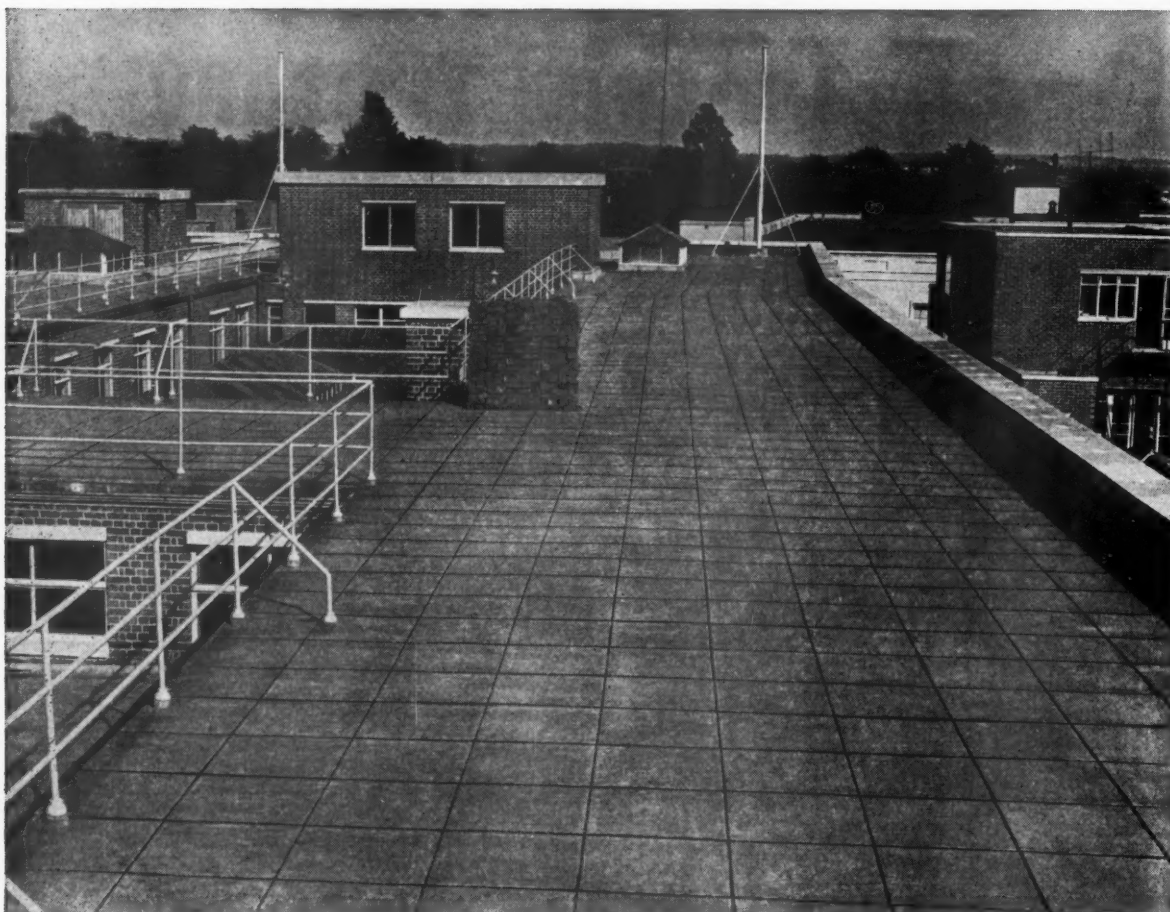
Fire resistance

**Reduces the risk
of condensation**

*For further details and technical
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THERMALITE LIMITED

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Architects: Messrs. Ellis, Clarke & Gallannaugh, FF.R.I.B.A.

PAROPA roofs for *Southern Newspapers Limited*

PAROPA was chosen for this flat roofing at the new head office and works for Southern Newspapers Ltd., Southampton. Elsewhere on the same building, PAROPA is used for roofing a series of five north-light spans above the Press Room.

PAROPA is the versatile material with many uses. It is ideal for all roofing; for terraces, forecourts, sun lounges, balconies and swimming pool surrounds. An illustrated folder is available on request.

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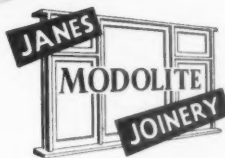
the new, unorthodox and
exceptionally economical walling
that wins all along the line

MODOLITE

TIMBER

CURTAIN WALLING

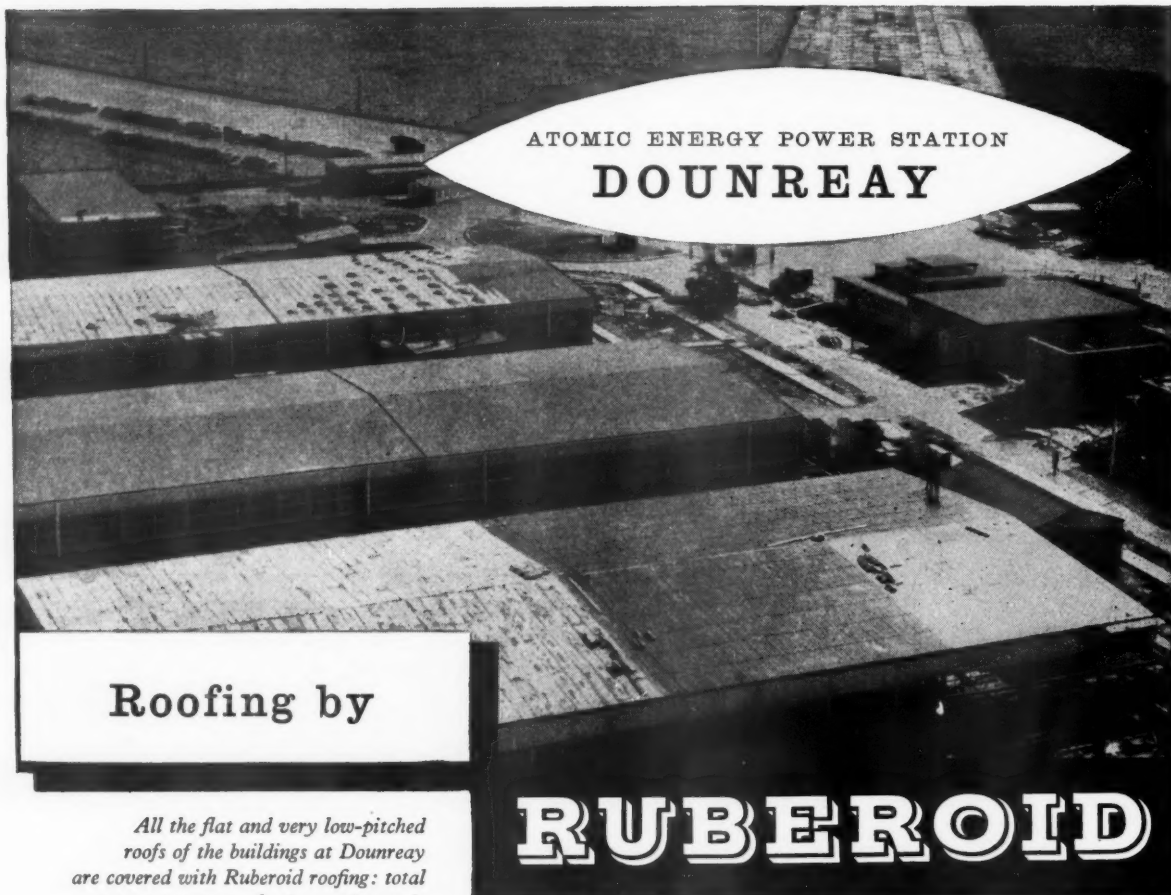
This new non-traditional and non-orthodox curtain walling is pioneered by the Company whose Modolite window range is now accepted throughout the country as a great advance in constructional joinery. We offer a complete curtain walling service and will prepare full working drawings from sketches and quote for supply and erection or supply only. May we send you fuller details of this unique development in architectural design.



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DOUNREAY

Roofing by

All the flat and very low-pitched roofs of the buildings at Dounreay are covered with Ruberoid roofing: total area 22,435 sq. yds. (over 4½ acres).

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We offer to you, through our Contracts Department, the benefits of many years of experience in matters concerning roofing: expert advice at the planning stage and skilled craftsmen to execute the work.



Gales of 100 m.p.h. sweep savagely across the low, level stretches of our Northern Scottish shores. Heavy Caithness slab tiles are the traditional roofing material for the windswept expanses of Dounreay.

But away went tradition as the great project for the United Kingdom Atomic Energy Authority reached planning stage. For the large roof spans visualised, the amount of support needed for heavy slab tiles would have been formidable in the extreme. The Ruberoid Company Limited was called in.

Specifications were submitted and accepted for Ruberoid Insulated Steel Deck Roofing, pictured above: light, strong, well-insulated against heat loss, quick to erect (dry cover was rapidly made available for other trades who worked speedily in reasonable comfort). The final layer of Ruberoid built-up weather-proofing incorporates Scottish granite chippings to increase solar reflectivity and add local character to the appearance of the roofs.

Protection of the Dounreay buildings by Ruberoid products is not confined to roofs alone. Many thousands of yards of Astos Asbestos Dampcourse incorporated in the walls are keeping the structures free from rising damp. The Ruberoid Company also provided a membrane of bitumen macadam on the raised dais under each Tank Farm.

For technical literature write or telephone—

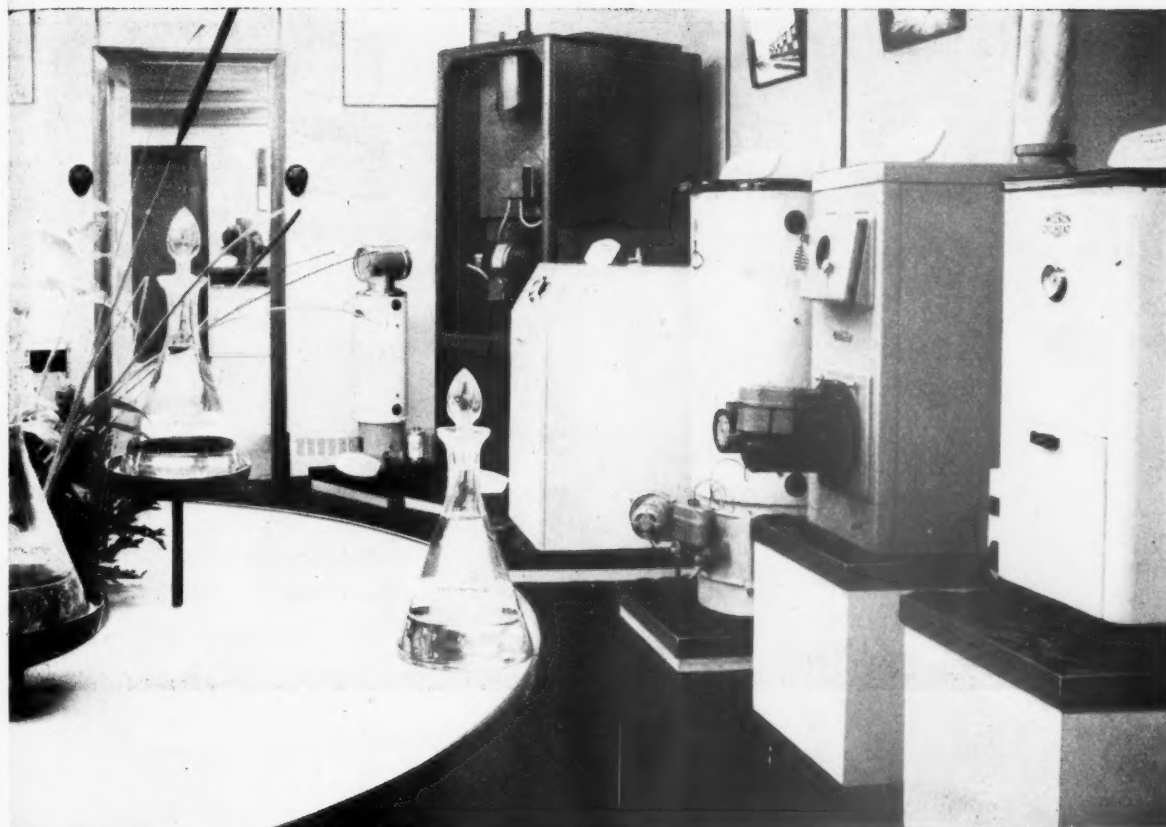


THE RUBEROID COMPANY LIMITED

354 COMMONWEALTH HOUSE, 1-19 NEW OXFORD STREET, LONDON, W.C.1. HOLBORN 8797 (10 LINES)

BRANCHES: Belfast, Birmingham, Bristol, Edinburgh, Glasgow, Manchester, Newcastle-on-Tyne, Nottingham.

C116b



Special exhibition of oil-fired heating equipment

To help architects, builders and heating engineers keep abreast of the very latest ideas in oil-fired heating for domestic purposes, Esso have organised a special exhibition showing a comprehensive range of equipment available in the United Kingdom. If you would like to visit this exhibition, alone or with a party, please write to the appropriate address listed here.



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101 Piccadilly, London, W.1
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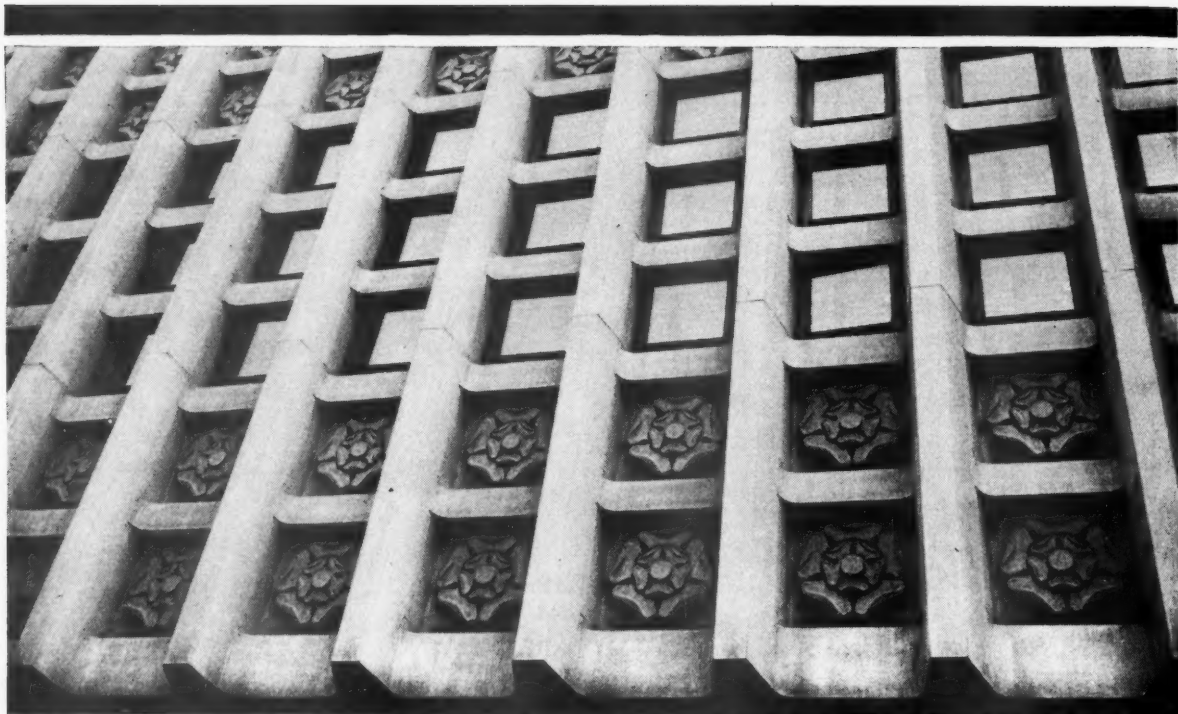
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SAXONE · LEICESTER

Architects: Symington, Prince & Pike, F.F.R.I.B.A.

Stonework executed in

EMPIRE STONE

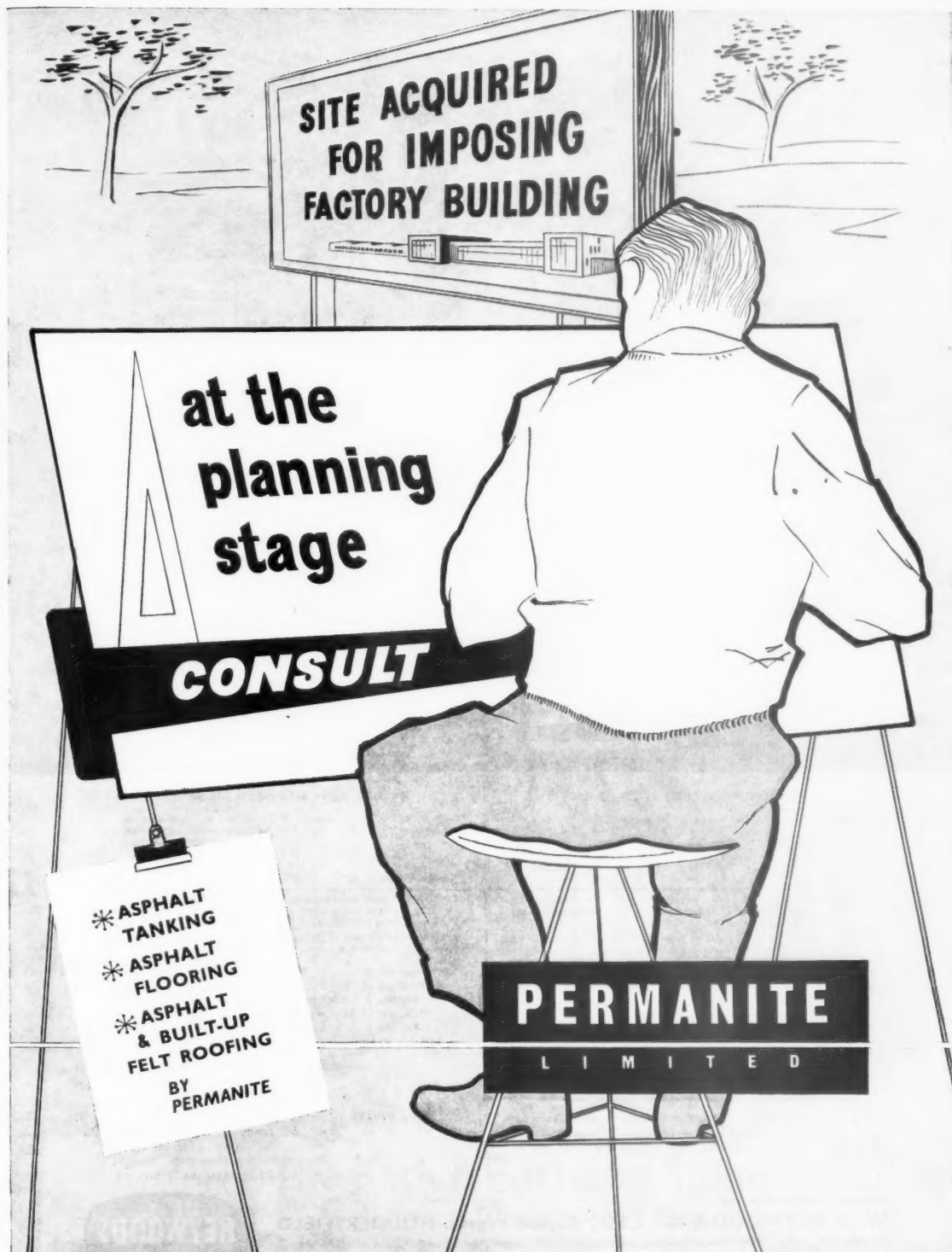
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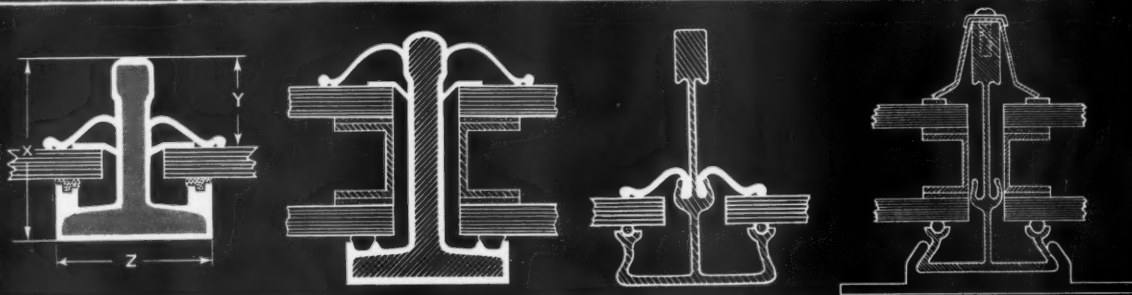
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PATENT GLAZING



NO. 2 DEEP WINDING TOWERS AT ROTHER COLLIERY • NATIONAL COAL BOARD • SCOTTISH DIVISION



GLAZING WITH LEAD CLOTHED BARS

Section	Dimensions			Maximum Length supplied	Weight per linear foot
	X	Y	Z		
No. 0	1 1/2"	7"	1 1/2"	5'6"	3.0 lbs.
No. 1	1 1/2"	8"	1 1/2"	7'6"	3.5 lbs.
No. 2	2"	11"	1 1/2"	10'6"	4.0 lbs.
Double Glazing	2 1/2"	—	1 1/2"	10'0"	—

For panes 24" wide, Bars should be spaced at 24 3/8" centres. Steel purlins should be drilled at standard backmarks — one 5/16" diameter hole for top and bottom fixing at bar centres.

Weight per square foot of glazing including 1/2" thick rough cast double rolled glass or 1/2" wired cast glass, and lead clothed bars.

Bar No. 0

4.82 lbs. per sq. ft.

Bar No. 1

5.25 lbs. per sq. ft.

Bar No. 2

5.50 lbs. per sq. ft.

THE HEYWOOD FEATURES

Continuous lead sheath, hermetically sealed galvanised steel core of robust section. Asbestos cord cushions held in grooves. Copper glass stop set-screwed to bar.

Fully lead clothed galvanised steel core. Double lead wings. Aluminium-alloy separator to give an air space of approx. 1/2", bedded on to efficient sealing strip. Asbestos cord seating for inner layer of glass. Phosphor bronze glass stop. Weight per square foot of glazing 9 lbs.

DOUBLE GLAZING



Information Sheets from Dept. 15/H

W. H. HEYWOOD & CO. LTD., Bayhall Works, HUDDERSFIELD

Branches at: London, Manchester, Glasgow, Belfast, Newcastle, Birmingham, Liverpool, Leicester, Nottingham
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GLAZING WITH ALUMINIUM ALLOY BARS

Section	Dimensions			Maximum Length supplied	Weight per linear foot
	X	Y	Z		
No. 0	1 1/2"	1 1/2"	1 1/2"	6'0"	.953 lbs.
No. 1	2"	1 1/2"	1 1/2"	8'0"	1.08 lbs.
No. 2	2 1/2"	1 1/2"	1 1/2"	11'0"	1.18 lbs.
Double Glazing	2 1/2"	—	1 1/2"	10'0"	—

For panes 24" wide, bars should be spaced at 24 3/8" centres. Steel purlins should be drilled at standard backmark — one 5/16" diameter hole for top and bottom fixing at bar centres.

Weight per square foot of glazing including 1/2" thick rough cast double rolled glass, or 1/2" thick wired cast glass and aluminium bars.

Bar No. 0

3.72 lbs. per sq. ft.

Bar No. 1

3.79 lbs. per sq. ft.

Bar No. 2

3.84 lbs. per sq. ft.

THE HEYWOOD FEATURES

Extruded aluminium alloy glazing bars. Continuous lead or aluminium glazing wings. Asbestos cord cushions held in grooves. Aluminium glass stop bolted through web of bar.

DOUBLE GLAZING

Extruded Aluminium-alloy section completely covered above the outer glass line by an aluminium capping. Aluminium-alloy separator to give an air space of approx. 1/2" bedded on to efficient sealing strip. Asbestos cord seating for inner layer of glass. Aluminium-alloy glass stop. Weight per square foot of glazing 7 1/4 lbs.

HEYWOODS
OF HUDDERSFIELD

STONE FOR STABILITY



Portland Stone

Monks Park Stone

Doulting Stone

Beer Stone

ARCHITECTS: James W. Mackintosh, L.R.I.B.A., A.I.A.A.

CONTRACTORS: Stone & Co. (Bristol) Ltd.

The stone, supplied and fixed, was Bath Stone from the Monks Quarries, and Portland Stone



The Bath & Portland Stone Firms Ltd

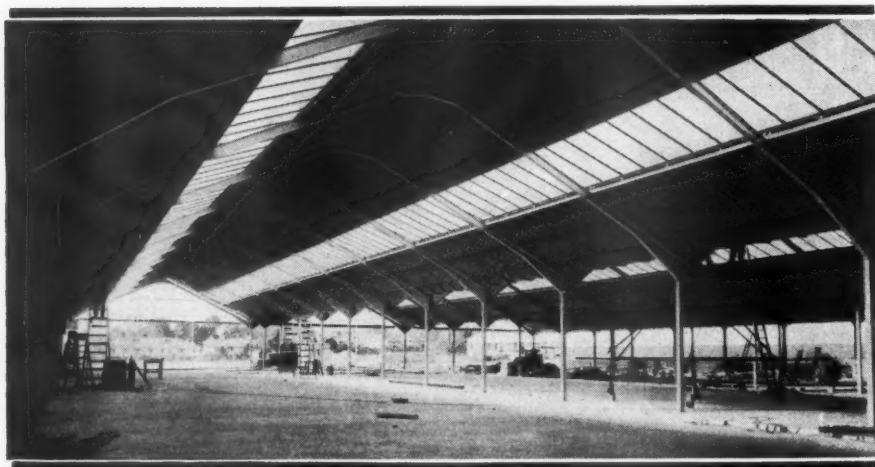
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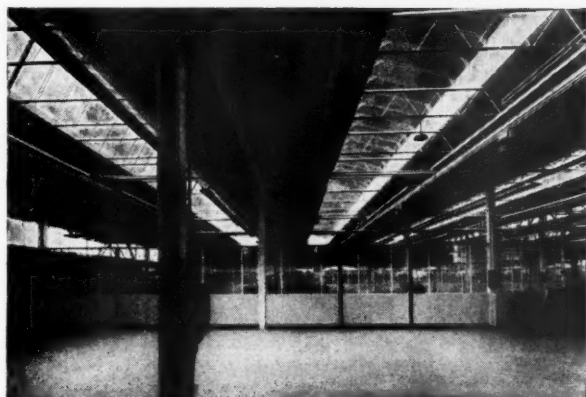
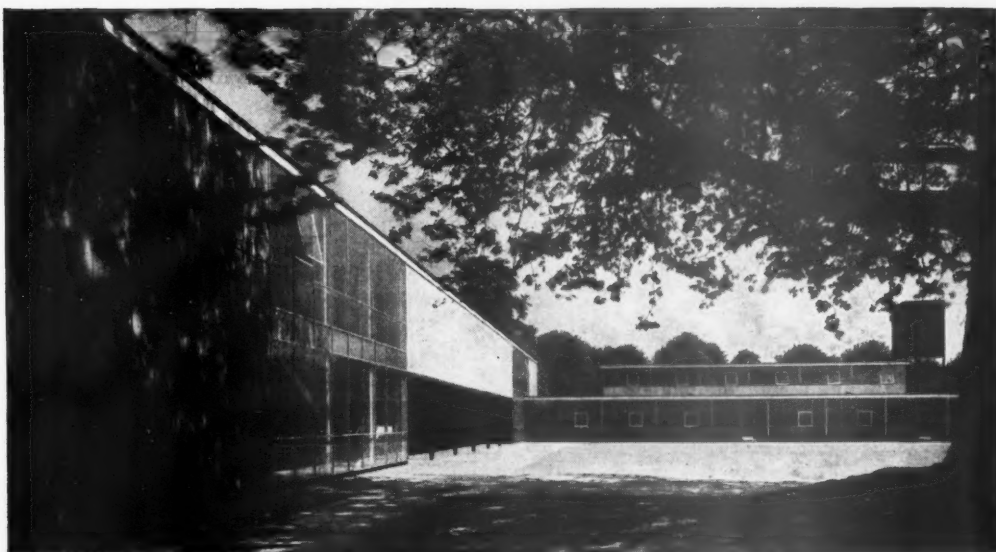
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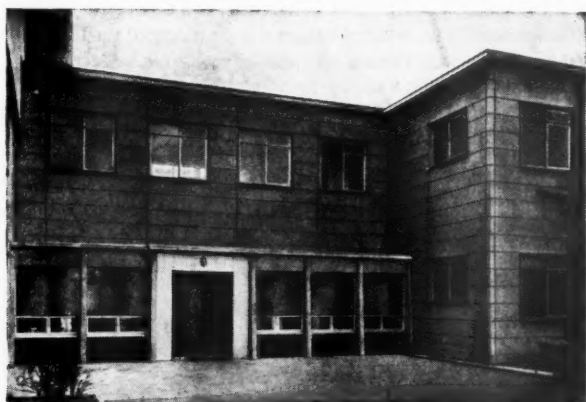
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Right: L.C.C. Spencer Park Secondary School. Professor Sir Leslie Martin, former Architect to the London County Council. Architect in Charge: J. M. Kidall, A.R.I.B.A.

Below: New Transistor Factory for Mullard Limited, Southampton. Architects: Wallis, Gilbert & Partners.



Below: Territorial Army Centre, Edinburgh. Architects: G. L. Walls & Duncan.



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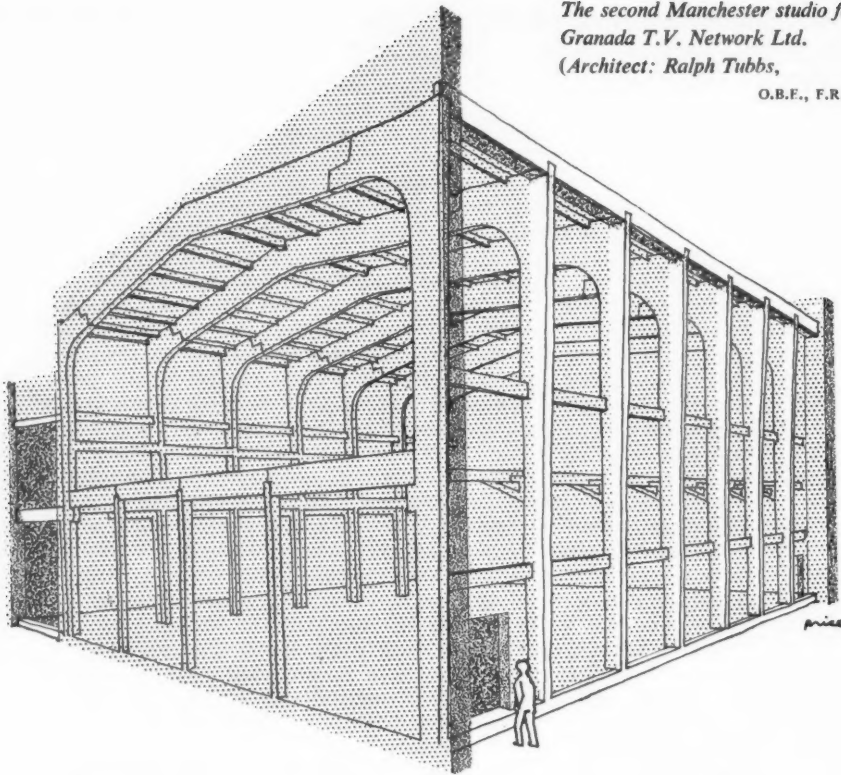
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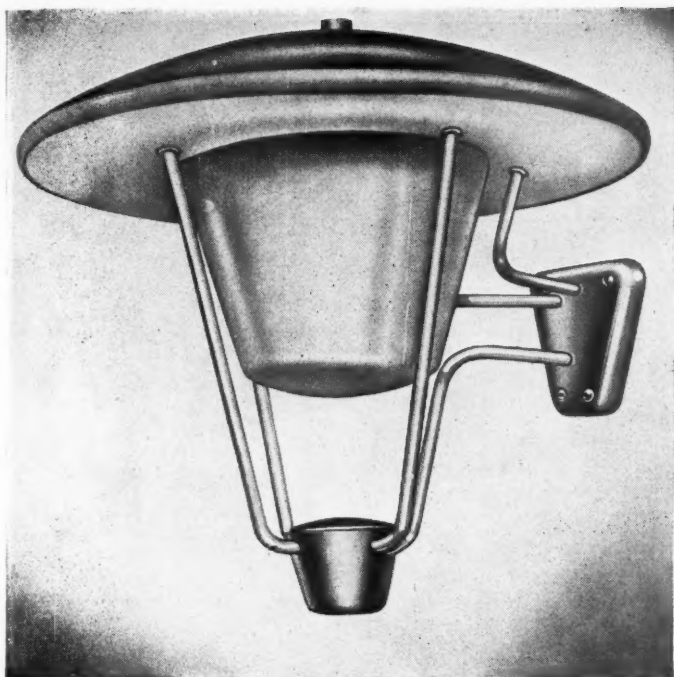
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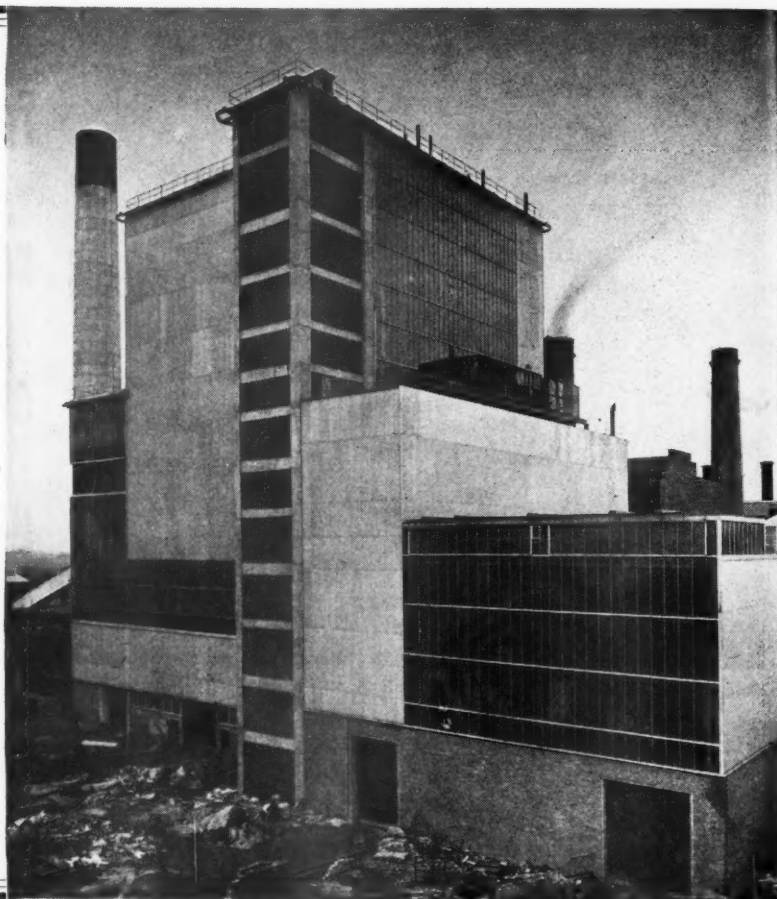
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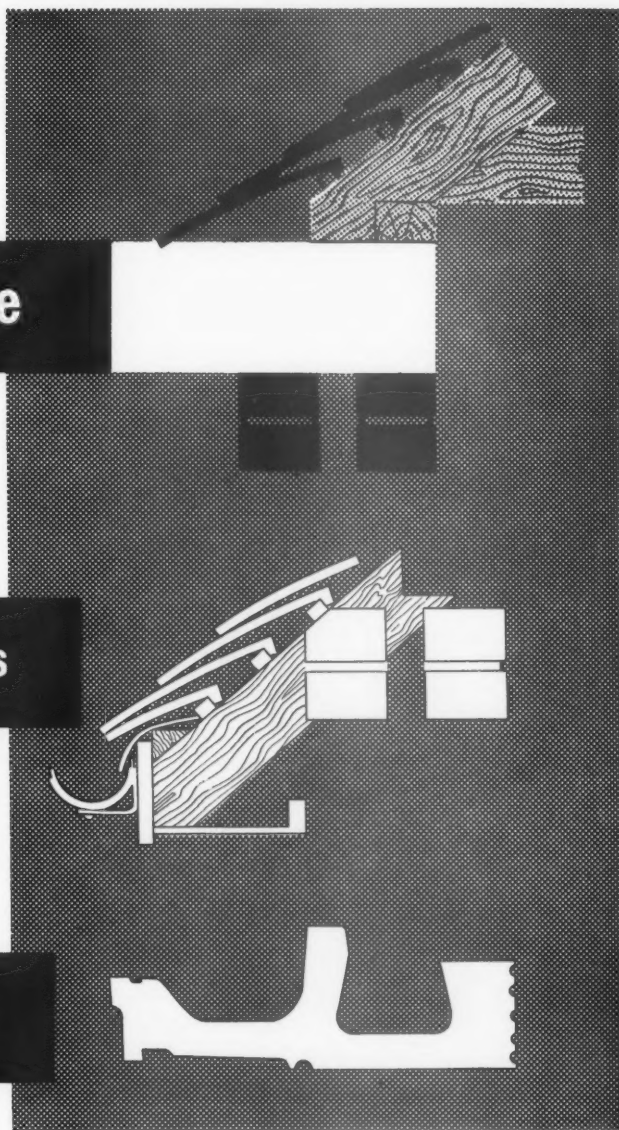
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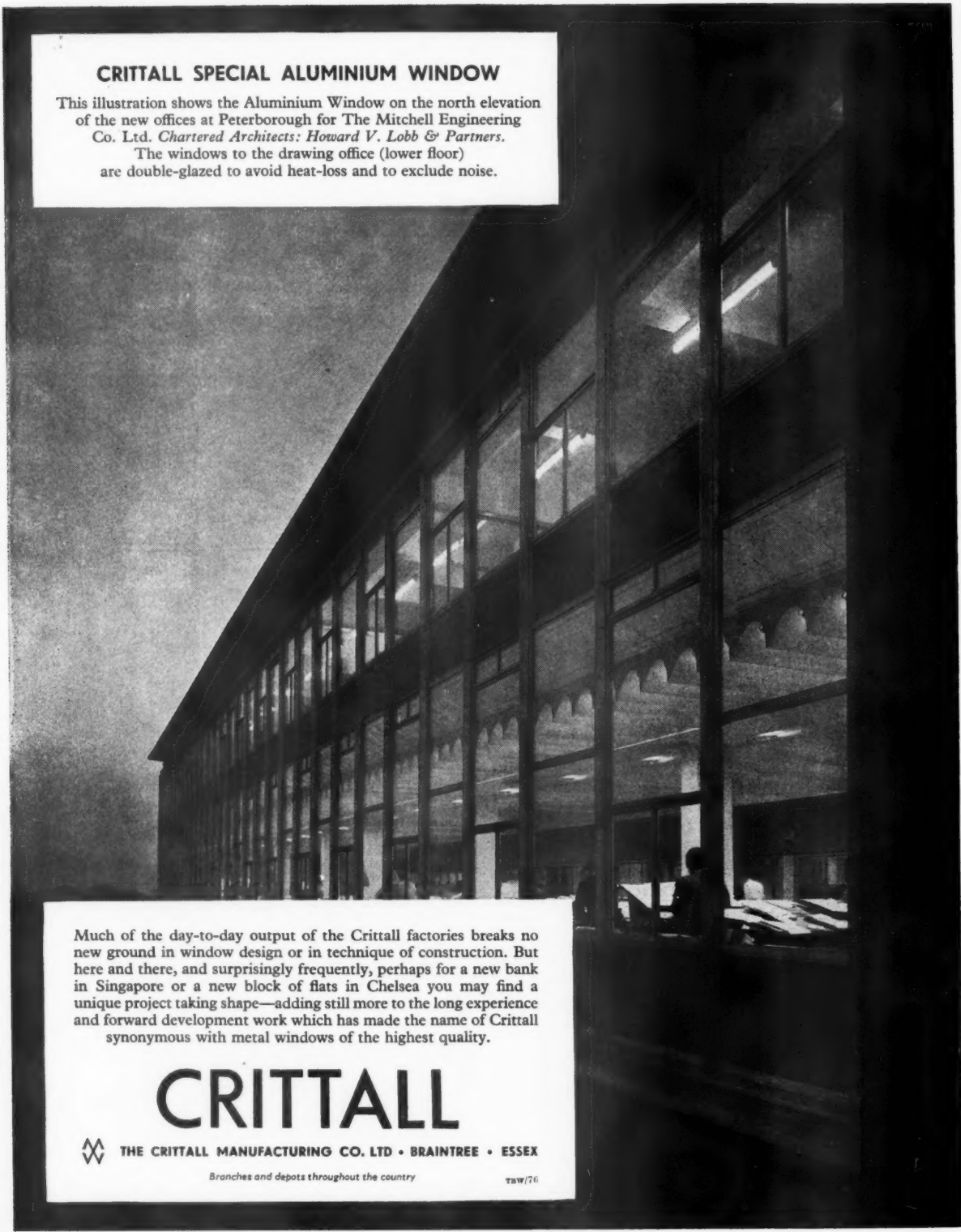
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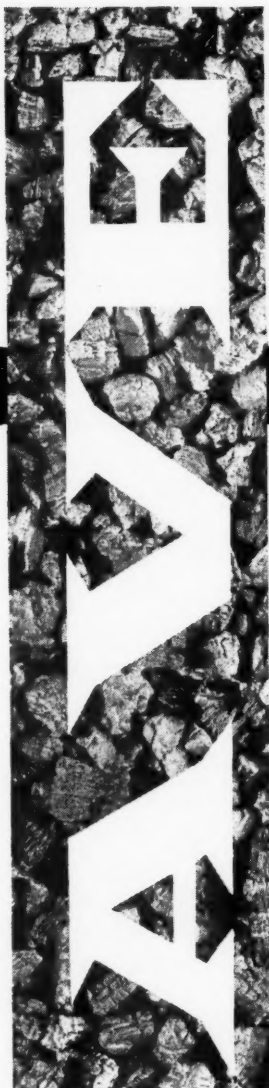
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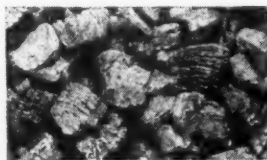
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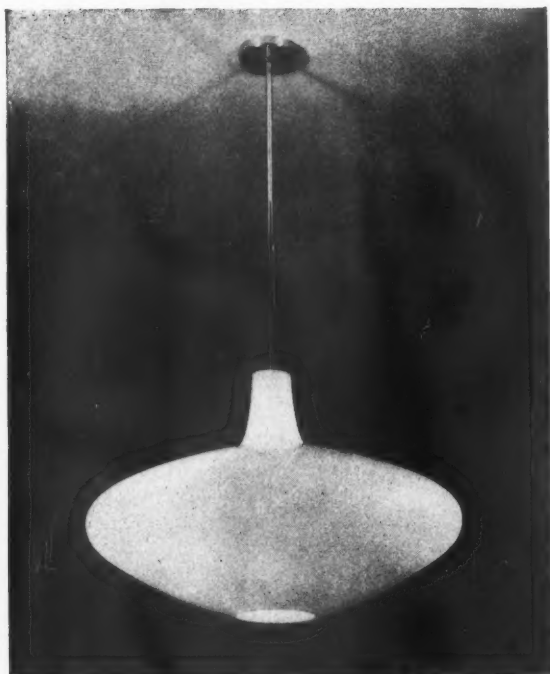
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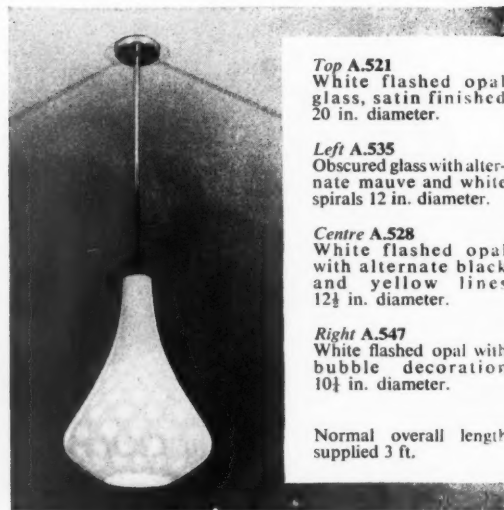
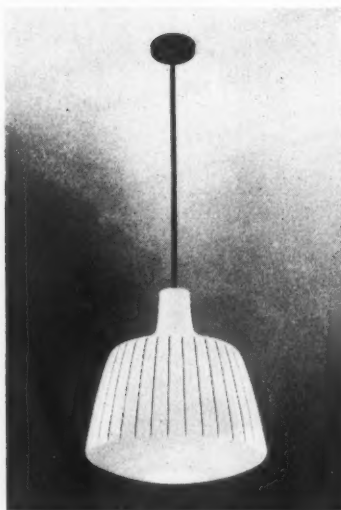
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FEBRUARY 1958 THIRD SERIES VOL. 65 NUMBER 4 THREE SHILLINGS AND SIXPENCE

EDITORIAL

New Year Honours List

Knight Bachelor. W. J. Worboys [*Hon. A.*].
K.C.V.O. Charles Wheeler, C.B.E. [*Hon. F.*], President, Royal Academy.
C.B.E. Clough Williams-Ellis, M.C. [*F.*]. Barbara Hepworth.
O.B.E. V. S. van Langenberg [*L.*]. Norman Boothroyd [*L.*], Ministry of Housing and Local Government. R. S. Borner, Secretary, Chartered Auctioneers' and Estate Agents' Institute. J. Nelson Meredith [*F.*]. A. J. P. Powell [*F.*]. Lieut.-Colonel P. R. Sawyer, M.C., T.D. [*F.*]. J. B. Shaw [*L.*], Principal Regional Architect, North Midlands Region, Ministry of Housing and Local Government.

Local Government Architects' Society

A memorandum on this subject, with a covering letter from Mr. Richard H. Sheppard [*F.*], Chairman of the Ad Hoc Committee, was recently sent to all local authorities in the United Kingdom which have an independent Chief Architect. This memorandum outlines the circumstances which suggest that the formation of a Local Government Architects' Society is desirable; offers some guidance on the Society's likely functions, finances and membership; and ends with a few questions to potential members about their degree of support.

The Society would exist primarily to further the interests of assistant architects in local government, and Chief Architects, to whom the circular was addressed, have therefore been asked to pass it on to their staff. Architects concerned are asked to send the R.I.B.A. a collective answer to Part III of the memorandum as soon as possible.

Any authority which for some reason has failed to receive a copy of the memorandum is asked to apply for one to the Secretary for Professional Relations, R.I.B.A.

Cover Picture

At the discussion on 'Architecture and the other Arts' held at the R.I.B.A. on 7 January, collaboration between sculptors and architects was debated. The illustration on the cover of a pool designed to give the children in a Californian elementary school 'the sight and sound of falling water' is an example of such collaboration, in this case between the sculptor, Tony Rosenthal, and the architects, Richard Neutra and Robert Alexander, F.A.I.A.

Symposium: 'Design Pays'. The Private House and its Setting

To further present action to improve the appearance of town and countryside through better design of 'private' housing, the Town and Country Planning and Housing Committee have arranged a one-day Symposium to take place on 2 May 1958.

A large panel of distinguished and experienced speakers including architects, house builders, representatives of client and building society interests and the Council of Industrial Design has been formed under the chairmanship of Sir Hugh Casson, M.A., R.D.I. [*F.*].

Discussion will range widely from 'The Client's Needs' to 'Future Action' for improving collaboration between architect and builder to achieve substantial improvements in design as a businesslike and worthwhile object.

A detailed programme will be published in the next issue of the JOURNAL.

Television

Architecture will appear in three new series of television programmes beginning this month—on both B.B.C. and I.T.A.

B.B.C. Television were due to begin their new magazine programme on the Arts on 2 February. This is to be a fortnightly series on Sunday evenings, and each programme will include five or six items on a wide variety of subjects—architecture, music, sculpture, painting, films, theatre, the circus, etc. The first item on architecture is scheduled for the third in the series—on Sunday 2 March.

For I.T.A., Sir Kenneth Clark [*Hon. F.*] is arranging a series of programmes 'Is Art Necessary?' This will be a monthly series, beginning on 9 February, and will include titles such as 'Is Your Cornice Necessary?'.

Children's Hour on B.B.C. Television will begin a series entirely on architecture at the end of February or beginning of March. This is to be a series of six programmes designed to encourage children to look around them. Members may have already noticed that a series of programmes has started on Materials for Building in the series Science and Life in the B.B.C. Television for Schools programme. These talks are being given by Gontran Goulden [*A.*].

The comments of any member who cares to send in his reactions to these programmes will be most welcome and helpful. They should be addressed to the Secretary, Broadcasting and Television Sub-Committee, R.I.B.A.

Council Business

A meeting of the Council was held on 7 January with Mr. Kenneth M. B. Cross, President, in the Chair.

The Council accepted the invitation of the Manchester Society of Architects to hold the British Architect's Conference in Manchester in 1960.

The Building Centre have proposed that a second competition for manufacturers' trade and technical literature should be held in 1958, to be run on the same basis as the first competition of last year. On the recommendation of the Science Committee it was agreed that the R.I.B.A. should again consent to act as joint sponsors with the Building Centre.

The Institute was invited by the Ministry of Housing and Local Government to submit comments on draft regulations for the control of outdoor advertisements.

On the recommendation of the Town and Country Planning and Housing Committee, a reply was sent expressing disappointment at the lack of a positive approach. While recognising that regulations tend by nature to be negative in character, it had been hoped that some attempt might be made to encourage good advertising as distinct from discouraging bad by supplementing the formal regulations with informal advice.

Regarding standardisation of forms of application for By-law consents, on the recommendation of the Committee on By-laws and Building Regulations, it was agreed to make representations to the Ministry of Housing and Local Government pointing out the waste of time and duplication involved in the variety of forms issued by local authorities, and in the excessive number of questions asked. The Committee had received some 200 forms provided by Allied Societies, and had observed that, while there was no very great variation in the information required, very many of the questions asked would be completely answered in any set of properly drawn plans which had to be submitted.

Other notes from the Minutes are given on page 138.

Size of Letter Plates

Members are reminded of the importance for all addressees, as well as for the Post Office, that letter-box apertures should be big enough to take the mail that the postman has to put through them.

For ordinary correspondence the minimum opening of 8 in. by 1½ in. specified in the new British Standard for Letter Plates (B.S. 2911: 1957) is the size that has been recommended by the Post Office for many years and will serve very well; but industrial and business premises normally receive bulkier mail in addition which naturally requires larger apertures than 8 in. by 1½ in. and B.S. 2911 does not preclude them. Recommendations on the position of the letter plate in the door, tension for springs and the need for rounded-off edges to prevent injury to the postman's hand are also given in B.S. 2911.

Cumberland Terrace: A Correction

The illustration on page 74 of the January JOURNAL was not of Cumberland Terrace as stated in the caption, but its neighbour, Chester Terrace.

The JOURNAL wishes to thank members who wrote pointing this out, and regrets the mistake.

R.I.B.A. Change of Telephone Number

As from the end of February, the telephone number of the R.I.B.A. will be LAngham 5533.

Address of Journal Offices

On the 21st of this month the staff of the JOURNAL are leaving their temporary quarters at 78 Wimpole Street, which they have occupied during the rebuilding operations at Headquarters, to return to the offices on the third floor of 66 Portland Place which they previously occupied.

The staff of the A.B.S. also return to the R.I.B.A. on the same day.

Junior Liaison Committee

The next meeting sponsored by the Junior Liaison Committee will be organised by the Institute of Builders at 48 Bedford Square on 11 March at 6.30 p.m. It will be a discussion meeting on procedure in a building contractor's office on receiving information that a tender has been accepted. The discussion is intended to be of interest equally to architects, quantity surveyors and builders, and those attending will be invited to take part. Any younger members who are interested should write to the Secretary, R.I.B.A., for tickets. The latest date for application is 28 February.

Exhibition of Spanish Castles

Since details of the photographic exhibition of Spanish fortified castles were announced in the December issue it has been learned that tapestries and furniture will also be arriving from Paris where the exhibition was recently shown.

The exhibition will be opened by the Spanish Ambassador and will be on view from Saturday 15 February–Friday 28 February (Monday–Friday 10–7: Saturday 10–5).

Exhibition of One Hundred Years of Architecture in America

This exhibition was prepared by the American Institute of Architects as part of their centennial celebrations in Washington last year and it was subsequently shown at the Edinburgh Festival.

The exhibition will also include photographs of some of the buildings submitted for the Honor Awards of the American Institute of Architects and a section illustrating recent work which has been added since the exhibition was first prepared.

The exhibition will be on view in the Florence Hall from the end of February until 25 March (Monday–Friday 10–7: Saturday 10–5).

R.I.B.A. Diary

MONDAY 10 FEBRUARY, 6 p.m. Library Group. Talk on John Spiller and the Church of St. John-at-Hackney, by Mrs. M. P. G. Draper, B.A.

TUESDAY 4 MARCH, 6 p.m. General Meeting. *The Architect's Role in Society*, by Sir John Wolfenden, C.B.E.

FRIDAY 14 MARCH, 2.15 p.m. Symposium on *The Design of Teaching Laboratories in Universities and Colleges of Advanced Technology*. Tea break at 5 p.m., and discussion resumed at 6 p.m. until approximately 8.15 p.m. Tickets still available from Secretary, R.I.B.A.

The Royal Gold Medal for Architecture, 1958

HER MAJESTY THE QUEEN, on the recommendation of the Royal Institute of British Architects, has awarded the Royal Gold Medal for the Promotion of Architecture in the year 1958 to Robert Schofield Morris [F], Past-President of the Royal Architectural Institute of Canada.

This is the second occasion on which the Royal Gold Medal has been awarded to a Canadian architect, the first occasion being in 1915 when the medal was awarded to Frank Darling.

Mr. Robert Schofield Morris was born at Hamilton, Ontario, in 1898. He was educated at Highfield School, Hamilton, and Ashbury College, Ottawa. In 1915 he entered the Royal Military College, Kingston.

In 1916 he was commissioned in the Royal Field Artillery and joined the Regiment in 1917. He served with "C" Battery, 70th Brigade 15th (Scottish) Division in France and Belgium. He was wounded at Ypres and returned to Canada in 1918.

The following year he entered the School of Architecture of McGill University, Montreal, and graduated with the degree of B.Arch. in 1923. From 1924-25 he worked with the firm of Carrere and Hastings in New York City and with H. T. Lindberg from 1926-27 after which he returned to Montreal and spent some time with the firm of H. L. Fetherstonhaugh, F.R.A.I.C.

In 1928 he spent six months in Italy, France and England studying architecture, and on his return to Canada joined the firm of Marani and Lawson as a designer. He became a partner in 1929, the firm becoming Marani, Lawson and Morris.

During the next few years construction was comparatively inactive, the most notable building produced at that time by the firm was the Bank of Canada at Ottawa.

Shortly after the outbreak of the last war Mr. Morris was appointed administrator of Construction Products under the wartime Prices and Trades Board and as such was responsible for regulating the prices and, in some cases, controlling the production of some 5,000 Canadian companies. He held this appointment until the end of the war.

From 1941-45 he was Major and Adjutant in the 7th (Res) Toronto Group R.C.A.

After the war the firm continued as Marani and Morris, and today consists of three senior partners, Marani, Morris and Allan, three associate partners who have been with the firm since early days, and two younger associate partners.

In 1935 Mr. Morris became a member of the Executive of the Toronto Chapter of the Ontario Association of Architects of which he was Chairman from 1937-38. In 1939 he was elected to the Council of the Ontario Association of Architects and was President during the years 1942-43.

In 1943 he was elected to the Council and Executive Committee of the Royal Architectural Institute of Canada and has served in this capacity until the present time. He was elected Treasurer for 1950-52 and President for 1952-53 and again for 1953-54.

Mr. Morris has served continuously in an executive capacity for the past 22 years and for some years acted as Chairman of the Ontario Association of Architects Committee of Architects and Engineers, whose duty it was to discover a basis of collaboration where the fields of the two professions might overlap. For a number of years Mr. Morris was a member of the Board of Examiners for entrance to the Ontario Architectural Association and has acted as Chairman to a number of specialist committees. He was responsible for the formation of and continues to sit on the Committee which is responsible for the management of the R.A.I.C. Journal.

As a member of the Executive Committee of the R.A.I.C. he was Chairman of the Committee on Standard Documents and, as such, redrafted the Owner-Architect Agreement and also the Owner-Contractor Lump Sum Contract.

During his Presidency of the R.A.I.C. one of the principal tasks

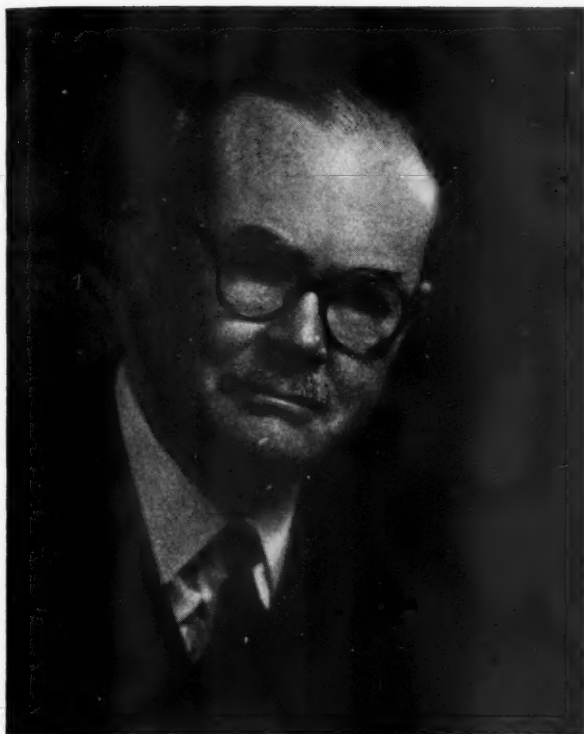


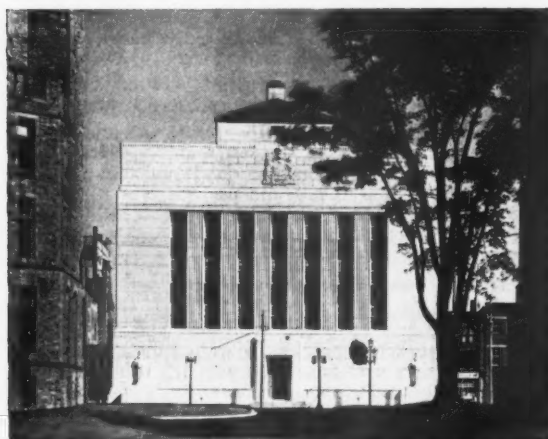
Photo: Ashley & Crippen



Herbert House, Toronto, 1957



Abitibi Power and Paper Co. Ltd., Head Office Building, Toronto, 1930



Bank of Canada, Head Office Building, Ottawa, 1938



Bank of Canada, War Savings Certificate Building, Ottawa, 1943



Canadian National Exhibition, Grandstand, Toronto, 1948



Guelph General Hospital, 1950

of the Executive Committee was the major reorganisation of the R.A.I.C. for the purpose of broadening its scope, clarifying its procedures and laying the foundation for a strong central office which would allow of gradual decentralisation of control by its elected offices. A complete redrafting of the Bye-Laws and Act of Incorporation became necessary and this duty was undertaken by the Executive Committee under the direction of Mr. Morris as President.

Mr. Morris became a Fellow of the Royal Architectural Institute of Canada in 1944 and a Fellow of the Royal Institute of British Architects in 1952.

He represented the architectural profession of Canada at Her Majesty's Coronation and has attended several conventions of the American Institute of Architects as the representative of the Royal Architectural Institute of Canada.

He was elected an Honorary Corresponding Member of the American Institute of Architects in 1952 and an Honorary Fellow in 1957. He represented the Royal Architectural Institute of Canada on the R.I.B.A. Council from 1954-55 and was elected an Associate of the Royal Canadian Academy in 1954.

Mr. Morris is married and lives in Toronto: his recreations are curling and golf.

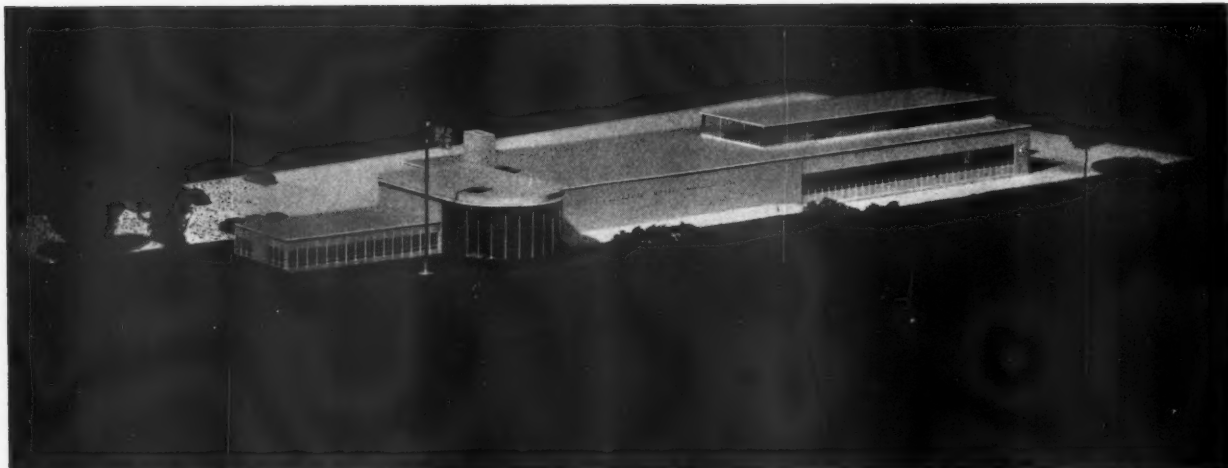
A small selection of photographs of work carried out by the firm between 1930 to the present time is given on this and in the following pages.



Groves Memorial Hospital, Fergus. 1956. Architects: Marani and Morris



Great West Life Assurance Co. Building Model. Architects: Marani and Morris



Blackwood Hodge Equipment Co. Building Model



Blackwood Hodge Equipment Co. Building, 1957. Architects: Marani and Morris

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A Statement on R.I.B.A. Finances

THE COUNCIL OF THE R.I.B.A. at their meeting on 10 December 1957 approved certain financial policies, including the increase of subscription rates, to meet the rapidly changing economic position arising from both the national economy and the increased cost of providing the service required by members.

The Council had before them a report from the Finance and House Committee who had been asked to review the whole financial position. Since the decision was taken in 1956 to increase subscriptions, on a financial report prepared at the end of 1955, demands on the Royal Institute's finances have changed considerably.

The review made in 1955 is already out of date owing to a number of factors which have coincided with the national inflationary trend. These include the setting up of an organisation to inquire into the conditions of professional practice throughout the whole profession, the need to improve staff salaries and to increase the staff establishment. There was an obligation to rebuild No. 68 Portland Place imposed by the terms of the lease from the Howard de Walden Estate. There were also the additions to complete No. 66 to the original designs of the late Grey Wornum; these additions being urgently required to provide increased accommodation for the new activities.

The new review has taken account of these changed conditions and of the possibility of further changes due to national economic trends in the future. The recommendations approved by the Council are based on budgeting for a three-year period with an adequate surplus in each year to provide for unforeseen increases and *ad hoc* expenditure which may be necessary in each year.

The Finance and House Committee's review showed that, if the present subscription rates were continued and the present spending policy remained, an accumulated deficit of £71,000 would be reached by 1960. The policy now approved by the Council provides, without any major diminution in the activities or changes in the present staff establishment and after taking into account the financing of the building operations, for an accumulated surplus of about £48,000 in 1960. This apparently large surplus will be used not only to cover unforeseen expenditure, but principally to reduce the loan necessary to finance the building operations and so to pay off the capital cost of the buildings and,

by so doing, to clear all extraordinary expenditure as quickly as possible in order to make the fullest direct use of membership subscriptions for the service to members and the furthering of architecture in the public interest.

The Committee's report before the Council sets out to show members how the Royal Institute's finances were based up to the present time. It gave the following summary:

(i) Income for ordinary expenditure is obtained from the following sources:

(a) Members' Subscriptions ..	approx. 81.0%
(b) Receipts from sale of publications	4.7%
(c) Examination Fees	11.2%
(d) Entrance Fees	1.8%
(e) Rents	1.1%
(f) Sundries	0.2%
	<hr/> 100.0%

(ii) There is no invested capital which can be used for ordinary expenditure—invested capital exists only in connection with Trust Funds for scholarships and other educational expenditure (including some library expenditure) and in the Building Fund.

(iii) The Royal Institute owns the existing building at No. 66 Portland Place for a period of 950 years on the building lease held from the Howard de Walden Estate. The original cost of the existing building has been fully paid up. No. 68 will be similarly owned for the same term.

(iv) The liabilities on ordinary expenditure can be summarised as follows, the percentages given being the approximate annual average for the next three-year period—1958–1960 inclusive—assuming that the financial policy approved in 1956 were to continue:

(a) Building maintenance, rates, insurance, ground rent, heating, lighting, etc. .. .	approx. 14.6%
(b) Salaries, staff pension contributions and National Insurance	41.3%
(c) Printing, stationery and postage	7.2%
(d) Library (purchase and repair of books, etc.)	1.1%
(e) Public Relations	5.6%
(f) Contributions to Allied Societies	12.4%
(g) Examinations	3.7%
(h) Grants, Subscriptions and Donations	0.9%
(i) Publications	4.3%
(j) Miscellaneous	8.9%
	<hr/> 100.0%

(v) An extraordinary liability exists at present to meet the cost of the rebuilding of No. 68 Portland Place and the additions of the upper floors of No. 66 which it is estimated will exceed the resources of the Building Fund by approximately £100,000 (see below).

(vi) The R.I.B.A. JOURNAL is not self-supporting. There is at present a deficit of approximately £3,700 on distribution costs.

(vii) Inevitably there are annual variables in both income and expenditure. These variables may be summarised as being due to:

(a) On income: Membership fluctuations, including members emigrating abroad and, to a lesser extent, fluctuations in examination fees and entrance fees.

(b) On expenditure: Apart from such specific expenditure as the Council may vote—e.g. on Public Relations—staff salaries, being based on a scale of annual increments, will vary between a minimum and a maximum. If all the staff were on the lowest rates of their scales the percentage of total income spent on salaries would be 33 per cent: if all were on the highest rates, it would be 54 per cent. In practice, with retirement and recruitment, neither position is ever reached and the limits lie between about 38 per cent and 45 per cent. The position will tend to be somewhat on the high side for about another six years. Contributions to Allied Societies vary *pro rata* with the total individual membership, but when a new allied society is admitted (and three new overseas admissions are contemplated) the contributions increase without a *pro rata* increase in membership subscriptions.

The report went on to summarise the reasons for the rapid change in outlook since 1955 which were ascribed to the following causes:

(i) Income from membership subscriptions is now expected to fall short of estimate by about £8,800 per annum due to the anticipated rate of increase of membership not being maintained. In the past this has shown a steady upward trend, whereas present indications are that it is likely to remain for some years at the current figure. The income decline is also due to unforeseen increased emigration of members overseas.

(ii) Income from entrance fees and examination fees is now expected to fall short of the previous estimates due to decline in applicants and represents a reduction of about £7,000 per annum from that anticipated.

(iii) Expenditure arising from the revised staff salary scales—made necessary to bring the Royal Institute's standards to those comparable generally in industry and commerce and dictated by national inflationary trends—has exceeded previous estimates by about £14,000.

(iv) Estimated expenditure arising from the revised staff establishment to meet the increasing activities of the Royal Institute, which also now makes allowances for inflationary increases, shows an excess of about £8,000 over previous estimates.

(v) Expenditure due to national inflationary trends is having a sharp and substantial effect on estimates covering printing, postage, members' travelling expenses, housekeeping and general administration, rates, and building maintenance, and together shows an increase over previous budgets of some £5,300 per annum. Similarly, these trends have affected budget estimates on rates and maintenance of the new buildings by about £2,000.

On the subject of Building Finance the report gave the following information:

(i) When the Council authorised in 1955 and 1956 the re-building of No. 68 and the additions to No. 66, the estimated costs were:

	£
No. 68	120,500
No. 66 additions ..	84,800
	<u>£205,300</u>

(ii) Increases in estimated cost reported to the Council in January 1957 ..	£ 5,500
Telephone installation approved by Council in April 1957 ..	4,000
Provisions for furnishings, redecoration and making good existing building and No. 78 Wimpole Street ..	4,200
Modification of third floor corridor for Library ..	1,000
Allow for further increases in labour and materials (5 per cent) ..	5,000
	<u>£19,700</u>

(iii) In February 1956, invested capital and other funds appeared sufficient by the end of 1959 to meet the then estimated cost. Since then the decline in share values and the short-fall of surplus from General Funds has reduced the estimated balance available for building to approximately £125,000.

(iv) The present position is therefore:

	£
(a) Original estimated cost ..	205,300
(b) Increases	19,700
(c) Total	<u>£225,000</u>
(d) Building Fund Finance available	£125,000
(e) Short-fall on required balance	<u>£100,000</u>

(v) The Committee have considered various ways of raising the additional finance required and have taken expert financial advice. Their considerations have

taken account of the recent increase in Bank Rate and the general economic position in the country. They have established that a loan for 20 years of £100,000 can be obtained at about 6½ per cent interest which, with the sinking fund for amortisation of the loan, will cost a total of approximately £10,500 per annum. The loan would be subject to reduction by gradual repayments if circumstances permit. The Committee have therefore taken this method of financing into account in their budget estimates and financial policy.

The Committee recommended, and the Council approved, that a basic financial policy under four heads should be adopted. These were:

(i) That each annual budget should be balanced with an adequate surplus as a contingency against special internal expenditure which from time to time the Council might see fit to vote additional to budget provisions, and to meet national monetary factors beyond the control of Council.

(ii) That the first call on any actual annual surplus should be towards reduction of the loan for building finance.

(iii) That, as the services required of the Royal Institute to the profession are of increasing importance, the financial structure and policy must be designed to enable these services to be continued and developed along the general lines already adopted.

(iv) That the status of the Royal Institute and the profession is such that it has a national responsibility during the present economic situation to curtail and limit such expenditure which, in the opinion of Council, does not materially affect the policy set out in (iii) above.

To implement these principles it was necessary to make special arrangements for 1958 since it was not possible to obtain any benefit from increased subscription rates until 1959. On the acceptance of new subscription rates and other adjustments in regard to rebates to Allied Societies, variations in entrance fees for examinations and minor administrative adjustments, a forward policy on a three-year basis could be planned. Within this structure the Council approved these changes in the financial policy:

(i) Membership Subscriptions

That with effect from 1 January 1959, membership subscriptions be raised to the following figures:

	United Kingdom and Members overseas resident in area of Allied Society but not members of that Society
Fellow	From 10 gns. to 12 gns.
Associate	From 6 gns. to 7½ gns.
Licentiate	From 6 gns. to 7½ gns.
Student (no change) ..	2 gns.
Subscriber (no change) ..	1 gn.
Retired Member with less than 30 years' membership (no change)	1 gn.

(ii) Examination Fees

That with effect from 1 January 1958, examination fees be raised to the following figures:

Probationers—Enrolment Fee
from £5 5s. 0d. to £6 6s. 0d.

Intermediate Examination

Admission to Examination
from £6 6s. 0d. to £9 9s. 0d.
Relegated Candidates—fee per subject
from £1 1s. 0d. to £2 2s. 0d.

Final Examination

Admission to Examination
from £7 7s. 0d. to £10 10s. 0d.
Exemption Fee for Students of Recognised Schools
from £2 2s. 0d. to £5 5s. 0d.
Relegated Candidates—fee per subject
from £1 1s. 0d. to £2 2s. 0d.

Special Final Examination

Admission to Examination
from £12 12s. 0d. to £15 15s. 0d.
Admission if Students, R.I.B.A.
from £8 8s. 0d. to £10 10s. 0d.
Admission if Probationers, R.I.B.A.
from £10 10s. 0d. to £12 12s. 0d.
Relegated Candidates—fee per subject
from £1 1s. 0d. to £2 2s. 0d.

(iii) Contributions to Allied Societies

That the rebate to Allied Societies under the provisions of Bye-law 73 be approved for 1958 and 1959 as follows:

Allied Societies in the U.K. and Republic of Ireland	one-quarter
Allied Societies overseas	one-third

(iv) Public Relations

That the Council's previous approval of a grant of £10,000 per year for the period 1957–59 be rescinded; that a ceiling figure of £1,500 for 1958 and £3,500 for each of the years 1959, 1960 and 1961 be approved, on the understanding that the Public Relations Committee obtain prior authority for expenditure in detail up to these figures, and that it be open to them to make out a case for any particular project in excess of the ceiling figure for the consideration of the Council.

(v) Publications

That from 1958 the Kalendar be published only in alternate years, and that

	Overseas—Members of Overseas Allied Societies and those resident outside areas covered by an Allied Society
Fellow	From 6 gns. to 7½ gns.
Associate	From 4½ gns. to 5½ gns.
Licentiate	From 4½ gns. to 5½ gns.
Student (no change) ..	2 gns.
Subscriber (no change) ..	1 gn.
Retired Member with less than 30 years' membership (no change)	1 gn.

in years when it is not published, a supplement covering changes in membership be issued.

(vi) International Union of Architects

That the grant for the International Union of Architects in 1958 be restricted to £600, to cover the subscription, costs of attendance at working commissions and sundries; and that the Council consider as a separate issue the question of participation in the Moscow Congress.

(vii) Building Finance

That a loan of £100,000 be negotiated to complete the building finance and secured by mortgage on the R.I.B.A. building redeemable within 20 years.

(viii) Surpluses

That approval be given to the policy that the first call on any surpluses from ordinary funds be for the purpose of reducing the above debt.

Note: Membership of the R.I.B.A., Table I: Increase in Associates 1954-55 was 849, while in 1956-57 it was only 262.

Table III: Death-rate is about constant, apart from very slight increase among Licentiates.

MEMBERSHIP OF R.I.B.A. I—TOTALS 1946-1957 (as at March each year)

		F.	A.	L.	S.	Total	Increase	Probationers enrolled
1946	..	1,972	5,077	2,741	2,523	12,313	—	—
1947	..	1,978	5,253	2,844	2,916	12,991	678	1,684
1948	..	1,984	5,829	2,893	2,987	13,693	702	1,740
1949	..	2,029	6,666	2,876	3,423	14,994	1,301	1,450
1950	..	2,026	7,425	2,848	4,054	16,353	1,359	1,800
1951	..	2,022	8,454	2,761	4,468	17,705	1,352	1,420
1952	..	2,057	9,315	2,681	5,005	19,058	1,353	1,163
1953	..	2,059	10,403	2,614	5,092	20,168	1,110	978
1954	..	2,056	11,333	2,546	5,074	21,009	841	917
1955	..	2,067	12,182	2,486	5,118	21,853	844	996
1956	..	2,179	12,862	2,453	5,174	22,668	815	1,016
1957	..	2,195	13,124	2,414	5,492	23,225	557	—

II—MEMBERS OVERSEAS (as at 1 November each year)

		F.	A.	L.	S.	Total	Increase
1954	..	290	2,016	89	359	2,754	—
1955	..	294	2,252	89	365	3,000	246
1956	..	318	2,464	87	383	3,252	252
1957	..	317	2,743	87	444	3,591	339

III—EXIT FROM MEMBERSHIP (Death, Resignation, Expulsion, etc.)

Year	Total
1954	255
1955	250
1956	485
1957	344 up to 5 November.

Architecture and the Other Arts

A Discussion held at the R.I.B.A. on 7 January

Professor J. M. Richards [A] in the Chair

The Chairman: This is yet another meeting about architecture and the other arts. I emphasise that this is 'yet another meeting', because the subject has been endlessly debated in recent years producing usually a general agreement that architects, painters and sculptors ought to collaborate closely; but nothing very conclusive otherwise.

In the hope of making this evening's discussion a little less woolly, the Committee which planned it thought it would be a good idea to concentrate as far as possible on one question: whether collaboration between architects, painters and sculptors at the design stage of a building is a practical proposition. I think most of us would agree that collaboration ought to mean more than the architect leaving one blank wall in his building for a painter to put on a picture, or leaving a niche suitable for a work of sculpture. But if instead architects, painters and sculptors are going to sit down together in the early stages and really pool their ideas, how would it work out in practice, and where do we draw a line?

All sorts of difficult questions arise. Are architects too arrogant to accept other creative minds working on their design besides their own? Should the painter's knowledge of colour allow him to make a general basic contribution to the design of

a building as distinct from merely embellishing it afterwards? Should the sculptor's knowledge and experience of three-dimensional form allow him to make a general contribution to the form of building in collaboration with the architect? What we want to find out is whether such a programme of really close collaboration in the early stages is workable and beneficial, and in order to give the discussion a tidy start we have four speakers each representing one of the arts—three to begin the discussion and one to end it.

First we have an architect, Mr. Basil Spence; then we have a sculptor in the person of Mr. Reg. Butler and then a painter in the person of Mr. Stephen Bone. When they have spoken in that order, the subject will be open for discussion, and then finally we have a critic, Mr. Basil Taylor, who has nobly undertaken what may be the very difficult task of summing-up at the end of the meeting.

MR. BASIL SPENCE, O.B.E., A.R.A., A.R.S.A. (Hon. Secretary R.I.B.A.):

I suppose it is trite to say that architecture is the mother art, but I think it is perfectly true that traditionally and historically buildings have brought together almost all the arts. They have brought them together sometimes very happily and

sometimes not so happily. Perhaps some of the most thrilling examples are the Ravenna churches, absolutely ridden with mosaics; the magnificent French cathedrals, so much enriched by that magnificent sculpture; the Baroque churches where painters and sculptors go hand in hand in one glorious cascade upwards into infinity, and, of course, the wonderful example of the Acropolis which, in itself, is a piece of sculpture heightened by an inner circle of sculpture by Pheidias. That is the traditional position. Of course, this tradition really carried on until the great purge when we felt that architecture required a dose of salts, and there was movement towards purity. So often I have heard people saying in the past—not so much in the present—that painting and sculpture as such should be completely divorced from buildings, that buildings themselves were a pure, simple, direct three-dimensional expression of space and the emotion that that space should contain.

Well, I suppose this does split itself into two parts. First, should there be this collaboration and, secondly, if we do agree that there should be collaboration, when? I am absolutely of the opinion that artists must come in with architects, and that the three artists—the architect, the painter and the sculptor—should go hand in hand from

the earliest possible moment. We are to discuss this question. It seems amazing to me that we should be discussing it, because when one travels abroad and sees the work that is being done abroad, one realises that it is not a question of discussion; it is something that exists. We in the Welfare State look after the miners and workers of all kinds; and it seems amazing to me in this country in which we live that we do so little for the artist—the painter and the sculptor.

This was borne out recently when I went to Vienna. I was disappointed with the new architecture but thrilled by the old—thrilled by those wonderful Baroque palaces and churches. The new architecture is disappointing except in one respect, and that is that everywhere one found many of the arts resurrected. By law 2 per cent has to be spent on the sculpture and on the painting, so that although the architectural work is not much good, the art work is absolutely splendid because there is competition. There is much going on which people compare and the artists get a great deal of practice. A poor country such as Austria can look after its artists, and I feel that we should really do more.

I can truly say from personal experience that when I work with painters and sculptors it gives enjoyment to my work and, speaking from the selfish point of view, I should like that arrangement to continue.

I have stated of course that painters and sculptors should come in at the earliest possible moment when the first sketches are being done, because there are other artists involved. There are structural engineers and other artists and we call them in very early, because they have to tell us how to keep our creations up. By the same token we should at the earliest possible moment go to the painter and to the sculptor and discuss things with them.

Of course, it means getting them appointed. What does the public think about painters and sculptors? What about the client who pays the money out? What does he think about art? He could not care less, and when one puts an item in a bill one has to adopt all sorts of cunning tricks in order to keep it in! For a piece of sculpture one can get away with a bit of stonework or plaster work. For a mural painting one can put in 'specialised paint work'. Recently I wanted a pool in a building and I had to stoop to the lowest possible depth and say it was a static water tank! These things are not appreciated. Our clients are usually composed of people who do not like to see their money, as they say, 'thrown about'; but I think it is our duty to our job to bring in the painter and the sculptor. Probably you will say 'Do you?', and I must say that since I was appointed to carry out the work on the cathedral at Coventry, the first appointments I got through the Committee were Mr. Ove Arup to do the structural work and Mr. Graham Sutherland to design the tapestry. This Midland Committee of business men raised their eyebrows when I said I would like Mr. Sutherland to be

appointed straight away. They said, 'Is it necessary', and I explained; they understood and the appointment went through.

My position is clear. I put it to you that, first, we should have collaboration between the three artists as often as we can and, secondly, that these artists should be brought in as soon as possible and that the team should work together from the earliest possible moment.

MR. REG. BUTLER:

If what I say sounds a bit evil-minded I hope you will put it down to the fact that I speak as a renegade architect and as a working sculptor. Mr. Spence is a nice architect. He likes the artists and gives them jobs and we love him; but by and large Professor Richards is quite right when he says that this subject has been talked about for years and practically nothing happens. The sort of thing the sculptor thinks about when he is working away in his studio is why is it that nothing happens? Should something happen? While I should like to make out a strong case for all you architects giving all sculptors as much work as possible, there are many reasons why I am forced to disagree with Mr. Spence.

It seems to me that it is a moral imperative that there ought to be sculptors and painters working in conjunction with architects. It is a moral question and the English as well as other nationalities love moral questions; but it is a purely moral attitude. There is no reason why there should be sculpture and painting in conjunction with architecture unless an architect—the designer of a building or environment—wants it so. It does not seem strange to me that architects such as Mies van der Rohe and some of the contemporary German architects see in the completion of the building the solution of the social, structural and environmental problems in general without bringing the artist into the picture in any particular definitive way. It seems reasonable that a man loving architecture and the exciting possibilities that are at his hands in the use of materials and methods of building may derive from simplicity and lack of enrichment of the surface a classical simplicity in the economy with which the problem is solved, and I imagine that many of you will feel horror at the thought of being persuaded to have 'tingly' bits fitted on the front of your walls!

In the same way the word 'mural' painting is a bad-smelling word. As far as I am concerned it means something terribly dull, stodgy and lacking the vitality or thrill which is necessary—a poor solution to a problem which was perhaps vital in the 17th century and which has very little meaning today.

You will forgive me if I spend some time talking about the question whether there ought to be collaboration or not. If one finds in the architects' work a strong feeling, as Mr. Spence has, that one wants to bring painters and sculptors into the picture, I should like to indicate the only conditions under which I think it could be possible today.

Thinking specifically for a moment of sculpture, I think one has to look at it either in terms of harmony or in terms of complement. I can see there are many applications for sculptural activities in relation to contemporary architectural problems, and I say 'sculptural activities' rather than sculpture because it seems the contemporary man working in a contemporary idiom may feel that he desires to produce a quiet and smooth surface or a rich and irritating one. He may wish to use techniques not similar to those but related to those in which he desires to break up the form of a given surface, and obviously sculptors are the kind of people who would be able to devise surface irritabilities which will give him those kind of results—something equivalent to the use of rough rubble in other orthodox practice with which we are familiar.

There are also possibilities in the use of sculptural non-functional elements—grilles, gates, and so on—and I think it is reasonable to employ sculpture to help to evolve suitable solutions of those kinds of problems; but I do not think you can expect the contemporary sculptor to involve himself in a kind of dilution of aesthetic vitality in his work in order that it may fit happily on to the surface of a stressed skin concrete building or fit into the general disposition of mass which the average building represents today. If you want to use sculpture as such, as opposed to making use of sculptural decoration, I think you have to face the preoccupations which are in the minds of contemporary sculptors, and they are as strong as those in the minds of architects. Sculptors are concerned with the creation of a statement made in inanimate matter which can be regarded as a living thing—something you meet in human beings, and I suggest if you tack that on to a building you will have the effect of crucifying it. There may not be many sculptors capable of producing a work which is so sensitive and vibrant with the quality of living being that you will get that horrible effect of a crucifixion if it is attached to a building, but that is the objective that I feel most sculptors are working for. If that is right, then I believe the solution is to use sculpture in the sense of it being a *genius loci* which inhabits space created by the architect. In that respect you can get the vitality which is likely to be the main contribution to any possibility of fusing architecture and sculpture; but you cannot get that by co-operation or by sitting down and saying, 'What kind of job of living matter will fit into this special environment?' It has to be done by the architect feeling that he likes the work of a certain artist, and he must go to the artist's studio and choose something and then put it in the environment which he selects.

I put the responsibility fairly and squarely on the shoulders of the architect. Any architect who wants to use sculpture should not sit down, scratch his head and conjure up some kind of stylised device which fits in in some way with the conception of contemporary architecture. Use

sculpture as it comes, when you like it, and when you do not like it do not worry; carry on without any sculpture, because you get rid of the moral imperative which says you ought to have sculpture and you ought to have painting.

MR. STEPHEN BONE:

I am in some embarrassment at the moment, because the last speaker said almost all I intended to say. You must turn 'sculpture' into 'painting', and really I find myself in the wholly embarrassing position of agreeing with him. It is bad for discussion, but possibly it is even more important than having a good discussion to arrive at the views really held by each of us.

There is a great deal of modern architecture today in which sculpture or painting would be unnecessary and out of place. The brilliant, logical solutions of technical problems can do very well without painting and sculpture; but may I call your attention to one interesting fact to which no reference has been made, namely, Tachism. The magnificent building, perfect solution of all problems, machine finished in every respect, is put up and almost at once the inhabitant is unhappy. There is no mud. There is no string to play with. There is none of the essential basic amusements which his ancestors had in constructing things. It is I think undoubtedly true that Tachism is the clear result of modern architecture. The next stage will be Tachiste architecture which I look forward to with enthusiasm! Some time ago the Society of Mural Painters organised a party, and Sir David Eccles, one of the speakers, made a comment which I have pondered for some time. He said, 'I advise the young painter who is interested in mural painting not to bother with architecture at all. Go to the client'. He said, 'The client is ignorant and the architect is frightened. It is far easier to overcome ignorance than fear'. On the whole I think that advice is sound. It would be interesting for a moment to analyse the causes of the ignorance and the fear, and some of their results.

The cause of the ignorance of the client we need hardly dwell upon. He is ignorant of mural painting because he has never been into a building where there is a mural painting of any importance in this country. If he has, he probably dislikes it. On the other hand, the architect is frightened first of all of his client, and he has every reason to be. He has tried to persuade the client to do things that the client does not want, and then he has the whole burden of selling the client the idea of employing an artist, and an artist whom the client may not like and about whom even the architect may have doubts! One has every sympathy with him in this respect. Well, some architects have been courageous. Mr. Spence is, of course, one example. Another one is Charles Holden who persuaded the British Medical Association to employ Jacob Epstein when he was only 28 years of age and had not been in this country very long. There are architects like that who overcome

their fear of the client, but the architect has also another kind of fear. He is frightened that it may turn out to be a flop anyway. The artist may not have any real idea of what the requirements are and he may make a hash of things. That again is a very reasonable fear. We have very few artists today who have had any experience of working with architects and who have had real experience of mural painting on a large scale.

What I consider matters more in the collaboration between architect and artist or architect and sculptor for united harmony between the two is the quality of the work of the two. It is easy to get perfect harmony at a low level. Time and again you find in so many buildings fairly good harmony but at a low level. It causes the emptying out of the real vitality of the painting and the sculpture. Quality is an essential and basic requirement. Architects are familiar with the situation that often occurs where they have to place a new building in some surrounding with a strong character of some kind which is not the character of today, and which they do not wish to imitate. They must do something of the time of today from their own ideas, and they are fond of saying that if they do something and do it well, it will settle down together nicely. They seldom apply the same principle to pictures in their own buildings or to sculpture, but it is so. If the quality of the painting is sufficiently good, it will settle down.

There are many architects who would like to keep a dog and bark themselves. They want to design the sculpture and the painting themselves, and in view of what some artists are like we can hardly blame them! If they cannot be in charge of the whole thing they will see that nobody else is. They will arrange for the mural painting to be done but will not have any light on it so that it cannot be seen; or they will see that the available space is so elaborately subdivided that the artist is reduced to doing a display on postcards; or they will arrange that the colour scheme is so reduced and subdivided that the artist cannot go wrong but he cannot go very right either! All these things are familiar in buildings all over the country, and it is that sort of thing that gives mural painting rather a bad name.

I shall cut short a great deal of what I intended to say because it has been said by a sculptor, but I would urge that the important thing throughout is quality. If the quality of the work is adequate, I do not think we need worry too much about collaboration. In fact, early collaboration from the artist's point of view is desirable really for one reason only, and that is to see that the architect does not subdivide the space at his disposal, and does not arrange for an unimportant wall to have all the mural decoration while the most important wall will be faced with slabs of black basalt. All that is necessary at an early stage, otherwise I would suggest that the best kind of architect for all painters is a dead architect! I think that most painters would prefer to decorate the interior of the

dome of St. Paul's, the architect being dead many years and the present decoration being not of a high standard, than they would to collaborate in the most up-to-date building in which the architect has really only very modified faith in their ability to turn out the right thing.

Therefore, I would advise the architect above all things to pick his artist well and to give him his head. That is what I would say to the architect. To the artist I would say this: Learn the job. Try to get some idea of architecture and a sense of proportion. Try to understand what the architect is intending, what he wants and what architecture is. So with those two pieces of advice I will conclude by saying that quality is of major importance, and congruity between decoration and architecture should easily come with it.

DISCUSSION

The Chairman: I think we have the basis for an interesting discussion. We have an architect who is longing to collaborate with all artists, we have a sculptor who hates the idea of being collaborated with, and a painter who is willing to collaborate as long as the architect is dead!

Mr. D. G. Lewis: If I understood Mr. Reg. Butler correctly, I cannot see how we managed to obtain those beautiful figures, for instance, outside Exeter Cathedral. Let us take the case of the violinist or 'cellist as an example; they can both perform individually but they can also perform in an orchestra. If the musicians can work individually and yet produce something superlative as a team, why cannot sculptors do the same?

Mr. Reg. Butler: The answer is that the world is not the same now as it was when the figures to which you refer were done. The problem of sculpture and architecture is not the same.

Mr. Stephen Bone: As regards the analogy of music, I do not think that composers collaborate, do they? It is only the executants.

Mr. G. Grenfell Baines [A]: To follow up that point, it is surely very much a matter of techniques which have changed, and times which have changed.

I really enjoyed Mr. Butler's disagreement with Mr. Spence, although I found myself agreeing with Mr. Spence all the time he was speaking. I liked the term 'surface irritability' which reminded me of 'counter irritation' or vital stimulus. I do feel that the way in which we work today, while it does not lend itself to integral sculpture, does lend itself to sculpture in the landscape. I think there is scope in that direction.

All of us who try to create anything have a psychological dilemma. We are by nature individualists, and it is only by the very deepest individual experience that we can really get something we want. Thus we find it difficult to come together. This business of hammering out techniques of

collaboration is one of the greatest difficulties which faces the architect today. Essentially collaboration begins with the client, and although we hear a great deal of lip service paid to collaboration, we do not hear how one does it. Tonight we have had valuable hints on how to do it. I think that as architects we have to strike a balance between our own individualities and those which our co-designer friends can contribute. If we can approach it in that spirit, not saying 'What a gap there is between us' but rather 'What is there in this gap for us', it will go a long way towards solving the difficulty.

Mr. John Hutton: I am a painter. There is one practical point that has not been brought out. It is that although it is ideal that artists should collaborate from the very beginning, a number of big buildings where painting or sculpture would be used today take, not so long as they used to take, but three or four years, and the artist is often asked to state at a very early stage what he is going to do. The artist's views change and in four years' time he may not be doing the same thing. Therefore it is wise if one is to come in at a very early stage not to be tied precisely to what you will do and how you will do it.

Mr. Humphrey Spender: I am an architect and a painter and have done mural paintings, but I am gradually coming to the conclusion that mural painting, as we have known it, is almost a thing of the past. There is nothing sadder than an old mural painting whose whites have gone yellow, and which has been attacked by suspended sulphuric acid in the atmosphere. I think that architects who wish to have any 'other-art' form incorporated in their buildings should not consult the artist as a painter necessarily or as a sculptor, but as an 'ideas man'. It is the age in which, with the use of technology, machinery and all the various things which are at our disposal, we can make use of more elemental things than paint and stone. We can make more use of light, water, a great variety of new materials and colours, not merely as applied to a wall in the form of paint, but, for example, transmitted colour projected through spotlights on to walls.

There are endless possibilities by which the artist nowadays can collaborate with the architect more as an ideas man than as a painter, and in order, to do this he must collaborate with the architect at an early stage so that he can know the whereabouts of such practical details as hot air ducts, which might be employed to get movements, and the whereabouts of spaces available for lights or the housing of electric motors and spotlights to throw images on to walls. I would suggest to the artists that they have to brace up their ideas about the various new means with which buildings can be decorated.

Miss Barbara Jones: I should like to ask Mr. Humphrey Spender to brace up his ideas about what mural paintings are like—that they are dreary, old, ruined things

with white patches. There is no need for this today. Paints are stable and you can have them incorporated in plastic so that they can be washed. Murals can also be done faster; one can cover a 20-ft. wall in three or four weeks, which is very nice, and when it looks sad it can be wiped off and something else put up. I do not think that the mural should be regarded as a set thing which must stay there forever.

I am all for collaboration early on purely technical grounds, because one of the things that is necessary is to have the right sort of plaster and the right sort of lighting.

Mr. Hans Feibusch: I have done a great many mural paintings in collaboration with architects, and I think that when a sculptor or painter cannot or will not collaborate, then it is his affair. There have been many artists who could not. On the other hand, the idea that everything has to be separate and by itself to be pure is a dangerous one. I think that it is up to the personality. If he is broad enough he can embrace part of what another man wants to do or can unite with him in the creation of something which is more than either of them would do by himself. In fact, if people get together, having chosen each other with a full knowledge of each other's work, I think it is possible for them to do something very much better than either would do alone.

For the rest, I think it is no longer a question of discussion. It is simply a matter of practice, and the architect should, if possible, work with one artist a great deal.

Mr. Tom Ingram: One of the greatest pleasures of my life is looking at buildings, and I am coming to the conclusion, listening to this discussion, that architects are far too humble. They allow themselves to get kicked around too much and bedevilled by too many things. I think that the architect must remember that he is like any other artist; when he begins to make a work of art he is in exactly the same position as God was in at the beginning of Genesis, if I may so put it. If architects will remember that and abandon this passion, particularly in America, for sterility—the huge green Japanese bungalow rising millions of feet in the air, the sort of thing that makes one wish that the architect would make it knobby and give it something which the eye could rest on and roll about on, and not be satisfied with this devitalised conception of purity and form.

Mr. Raymond Walker [L]: I should like to support the previous speaker. It is all a question of grammar. Years ago we had a grammar, but we seem now to be talking a language without a common grammar. Our artists are some of the chief offenders in developing new grammars which are not understandable to the rank and file, and if I may address myself to our Chairman for a moment, if he could attempt to simplify all the words that we have heard ourselves this evening and to put them into simple context for ordinary people, particularly clients, it would help the situation.

Mr. Ove Arup: It is obvious that painting and sculpture are part of the aspect of building. Therefore a certain amount of harmony or contrast is desirable. Naturally if there is one master mind behind the whole thing—he may be the architect—and if he is good, then it may be better to leave the control in his hands. If he is not very good, then it may be better to have some wall space so that a good artist or sculptor can create something which will fit in to that space.

Theoretically it may be all right to say that the architect, painter and sculptor must get together and create something, but it may be very risky indeed. There is no one single way of doing it. Maybe the client will decide himself. There are many different ways of doing it and no general way in which it can be achieved; but obviously quality is the factor which matters most, and collaboration is important when it is real collaboration.

Mr. Geoffrey E. Wickham: I am a painter. There is one aspect which I think could arise from the discussion—a practical point possibly, namely, that the Institute are concerned with the education of architects. The architect by nature is not a specialist. If you look at the requirements of the Royal Institute's examination you will find that the architect is required to have a 'fair knowledge of the engineer's work'. What he is required to know about other arts is almost nil, and it reflects the attitude of the architect. There are new regulations I understand being formulated and passed to the schools for future architects, and in them some reference is made I think to the fact that architects should have a look round at the other arts. It is a good thing, but there is no examination. Of course, it would be difficult to specify exactly to what degree the architect should study the arts. The very vocabulary which we have been using is mixed, and there has been little distinction between art and decoration for a start.

I do feel that if anything could arise from such a discussion it would be that the Institute themselves looked at their requirements and allowed the architectural student a chance of real collaboration. At the moment he has very little chance, and he is the man who will be in charge of the building. There are, of course, notable exceptions, and we know who they are; but on the whole the average architect has not looked at modern art, does not know what it is about and has not the means to collaborate. What is required at this moment is that the architect should have a genuine choice, and when he has the genuine choice, that he is educated to be in a position where he can make use of that choice.

Dr. Helen Rosenau: I think everybody would agree that obviously quality would help; but you cannot force quality and I do not think you can force co-operation. As long as co-operation is sociologically conditioned, as it were, I think it will be difficult to get people to work together. In the case of Mr. Spence there is a long

tradition of co-operation in religious building, in which it may be thought that it is probably more easy for the architect to co-operate with the painter than in some new type of building. In saying this I am thinking of Mexico where the architects and decorators have co-operated in recent years in my view to very great advantage. Unless there is a common aim it will be difficult to get co-operation. Therefore we must think what the aims are, and on this level of iconography I think we can come together, artists and architects. At the same time we can come together on a more individual level.

One would find it difficult to say, for instance, whether Bernini was a sculptor or an architect, and I did not know that Mr. Butler was a renegade architect—that explains why he does not want to co-operate with architects! In his own work I think that he synthesizes both the work of the architect and that of the sculptor. Unless we break down these specialisations which I think have no place at all in the world of the arts, we erect barriers which we are at great pains to demolish. Instead of trying to demolish them surely it would be better not to erect them in the first place?

Mr. Donald McMorran, A.R.A., F.S.A. [F]: To go back to the remarks of the speaker who referred to the question of training, as Past Master of the Art Workers' Guild—and Mr. Bradshaw the present Master is here and will doubtless add to these remarks—I think it is only fair to the Guild to say that they did use their influence with the Board of Architectural Education during the last year or two to persuade the Board to make some arrangements to encourage students, during their school periods, to pay visits to the studios of painters and sculptors. In that way it was felt that they would have some opportunity of getting to know the quality, texture and feel of the materials which the painter and the sculptor use.

We have concentrated all the time on executing some particular commission, but what we want is a greater community of interest and exchange of opinion and ideas between the different artists, and that is what the Art Workers' Guild exists for.

Mr. Laurence Bradshaw: I am glad that Past-Master McMorran has brought that point out; but what has impressed itself upon me more and more is how painters and sculptors have to push forward their ideas almost in a wilderness, because there is a definite feeling that architects may not understand fully what the problems are. Murals have been referred to in such a way that shows unfamiliarity with the mural position all over Europe and America, and the same applies in the case of sculpture. Mr. Butler is a unique individual who has won respect for his individual efforts in sculpture, and it is not to be wondered that he looks askance at the idea of going back and collaborating with a profession he has fought his way out of for the reason of greater self-expression.

There is a great body of painters and

sculptors who desire to collaborate, and Mr. Spence's words have been welcomed by those who are that way inclined. I feel at this moment that there is no traditional style to which the architect can resort. Collaboration is essential in order to find what each individual architect's terms of reference are. I am used to collaborating with architects of the modern school and the more traditional ones, and one of my first efforts is to understand what a particular architect is saying. One of the ideas of the Guild is to throw sculptors, painters and architects together so that they get used to one another in a social way, and have greater opportunities of familiarising themselves with the various schools of thought.

In my view the basic requirement is education. On the Continent, in the main, sculptors, architects and painters come from the same schools where they have fought the battles round the common-room table, and when they come to do professional work, they have a united spirit and a greater understanding.

The Chairman: I should be interested to know whether architects have any views on the parts which can be played by the painter with his training in colour, and the sculptor with his knowledge of form. I am thinking of the fact that during the war many painters were in camouflage and learned a great deal about breaking down form by the use of colour on plain surfaces. That kind of information never seems to be placed at the disposal of architects.

Mr. A. Llewellyn Smith, M.B.E. [F]: We have been accustomed ever since the war to buying our paint from a particular paint manufacturer, and this manufacturer employs a Rome Scholar of Painting. I am not rash enough to embark upon a colour scheme until this gentleman has come round and given me his ideas. He always tries to find out how my mind is working and then produces something quite different, which always comes off. I happen at the moment to be working on a church where I hope to have a mural painting. I asked the mural painter to come in at a very early stage to make sure that the painting can be properly sited and illuminated from his point of view and the church fitted round it, because it is to be the central feature. I propose before the colour scheme is finally decided upon to bring him into the discussion.

I believe that architects who are trained at a department of architecture which also forms part of a polytechnic or general school of arts and crafts are in a much better position to understand the painters and sculptors, their requirements and what they are driving at than the architect who is brought up, as it were, in a vacuum, simply studying lines drawn on pieces of paper and with no real experience of things or acquaintance with the people who are using materials such as stone, glass, paint, iron and so on. I hate divorcing the training in architecture from training in general arts and crafts.

The Chairman: I have had a note passed to me asking whether some architects could not say why there ought to be collaboration.

Mr. Basil Spence: I think it is a matter of personal idea. I should like to collaborate because I like to do so.

Mr. Peter Sheppard [A]: The trouble is that most artists tend to run out of step with one another. Surely the aim of collaboration is to produce better work? A good example I think occurred recently in connection with a famous modern building. The architect employed an artist of international reputation to do the painting on a staircase wall, and I know he told the artist, 'Here will be a window, this will be the light and here is a sample of the marble on which the painting has to go'. What the artist produced was a beautiful abstract painting which was so near, but not near enough, to the colour of the marble to make it look like a dirty mark on the wall! That is collaboration on the part of the architect but not on the part of the artist. If the artist takes the 'Take it or leave it' view of his work, then he makes it very difficult for buildings to be decorated by works of art at all.

Miss J. F. Adburgham [L]: Surely one of the greatest and most important reasons for collaboration is to give the mural painter an opportunity of having his work displayed before the ignorant public. How else will the general public who have been described as ignorant see the virtue of the mural painter's work and the sculptor's work?

MR. BASIL TAYLOR:

I should like to divide the discussion into two main issues which seem to have been raised. First of all there is the question of whether indeed collaboration ought to take place for one reason or another and, if it should take place, as some speakers feel, under what conditions should that collaboration take place and in what circumstances can it best flourish.

To take the first case, I think we have had a very wide divergence of opinion with both extremes stated, and I think that the tenor of Mr. Butler's remarks has suggested that we must not be hag-ridden by the notion of any moral imperative as far as collaboration between architecture and the other arts is concerned. At the other end of the scale I think we have had, as far as architects are concerned, the most eloquent example of Mr. Basil Spence to begin with and his fervent appeal for collaboration. In his case it is on the grounds that he likes doing it; but from other people, from some of the painters and sculptors amongst us, we have had other fervent expressions of belief in collaboration—belief that collaboration happened in the past and therefore it ought to go on happening; collaboration ought to take place because it gives the artist the opportunity of making his work public; collaboration ought to happen because it provides the artist with assistance in his professional studies and professional well-being; collaboration

ought to happen because it may make architecture more knobbly!

I think we turn next to the questions about how collaboration can best take place and when it can best take place if it does so. On the question of how it can take place best, several speakers have drawn attention to the fact that architects in particular and painters and sculptors also are ignorant of the techniques and present developments of the other arts, and some means must be found educationally to acquaint them with the nature of the other arts with which they may be concerned. Then there was the second view that we can only expect this kind of collaboration if there is some sort of social coherence—not that people must speak the same language, but that they must share the same general philosophy of life and the same general social outlook.

When it comes to the mechanics of collaboration, there seems to have been general agreement that if collaboration takes place, although there have been some exceptions, it should take place at the earliest possible stage. On this point some people have suggested that that kind of collaboration must mean a greater readiness on the part of someone who may have been trained as a painter or sculptor to broaden his outlook and response in the matter of the use of materials. Another speaker has suggested that we need not be troubled by the fact that traditional materials may not be suitable, because in fact they can be handled just as effectively today under particular conditions.

In spite of the general agreement that collaboration should take place at the earliest stage, there have been those people who would prefer that the architect should establish his environment and that the painter and sculptor should find their place, providing that the fundamental basic essential conditions for the coming into existence of the work have at least been agreed upon in the first instance. I hope that that has done something to summarise this complex discussion.

If I may now take up both the challenge and the privilege in these four walls of saying the last word, it is this. I should like to elaborate a little and change the direction slightly of some of Mr. Butler's remarks which were supported by Mr. Bone. He spoke of this sense of necessity for collaboration as being based upon what he called a 'moral imperative'. I would not challenge that generalisation. I think that a sense of moral imperative exists. One speaker has given it a particular turn by suggesting that one of the necessities of this collaboration is to provide exhibition space for the painter and the sculptor. Personally that is a point of view I deplore. I think that we are only too ready to be obsessed by the necessity for patronage. Patronage of the kind in the past no longer exists. We worry now about creating circumstances in which patronage can be exercised, and I think that only too often leads these people into a state of creating false patronage—patronage which because of the conditions of our own times

is unrealistic. I think that the notion of building as a kind of exhibition place for painting and sculpture is an undesirable one. I think there is also a tendency, even if you do not think of a building as an exhibition place for painting and sculpture, to imagine that one must open a building to every possible kind of thing. That seems to belong to the same kind of family of thought as that which holds that it is desirable to make a building a kind of exhibition place, which I do not think it should be.

I think that besides this moral imperative there is an historical imperative. We look back and in the last 100 years we have been encouraged by the tremendous pursuit of the history of art to look back in more and more detail. We are encouraged to look back and to see the French cathedrals or the Baroque churches, to see the kinds of collaboration which have already been pointed out, and to think that because this has happened in the past in this way and has had the most beautiful results, we must somehow continue that particular pattern. I think it is not only just a moral imperative that we have to look at with a certain degree of scepticism, but we have also to look at this historical imperative which exists in some people's minds more critically, and to make sure that the historical view does in fact contain all the possible circumstances of collaboration between architecture and the other arts.

I would loathe to be asked to prophesy what the future of architecture will be in a hundred years' time; but I would suggest that at present we have two kinds of architecture side by side. One I would call 'hand-made architecture' and the other 'machine-made architecture'. I am confident that if those architects practising hand-made architecture wish to use the collaboration of painters and sculptors, then there is simply no reason why they should not do so, and why the painter and sculptor should not collaborate with the architect. But I doubt whether there is any possible fruitful collaboration between hand-made painting, hand-made sculpture—because that is what it is—and machine-made architecture. Mr. Bone referred to Tachism. I do not think that any kind of collaboration is possible between hand-made painting, which is Tachiste or action painting, and machine-made architecture; and if there is felt to be a necessity for collaboration between machine-minded architects and the painters or sculptors, then there is a suggestion which Mr. Butler made earlier that sculpture, at any rate, should find its place as a presence within the building maybe or, if not within the building, within the general ambience of the building.

The Chairman: I am grateful to Mr. Taylor for his very effective summing-up. I think that this evening we have had what the politicians call 'a useful exchange of views', and I hope you may feel that some ideas have been put about which are stimulating enough to take away and even to act upon.

Report of the Cost Research Committee

THE COST RESEARCH COMMITTEE, who were appointed (Chairman; Mr. R. Baden Hellard [4]) by the Council in September 1956, have now completed the first stage of their work. This report contains their findings and suggests a number of lines of action for follow-up.

Terms of Reference

The Committee were given the following terms of reference:—

(a) To consider the points raised at the British Architects' Annual Conference 1956 held at Norwich in relation to those aspects regarding which architects can contribute to economical building and to suggest lines of action where merited.

(b) To consider the formulation of some positive method by which liaison can be established between the R.I.B.A. and the R.I.C.S. Quantity Surveyors' Committee.

Procedure

The Committee considered that their first task should be the study of methods by which the architect could give cost considerations their proper place in design alongside the visual, functional and technical factors involved. For this purpose, the term 'cost control' was taken as the means of checking the effect on the cost of the building of all the decisions made during design, with the aim of sparing the client unnecessary expenditure and providing for the proper distribution of expenditure on the different parts of the building. (See the Committee's interim report in the R.I.B.A. JOURNAL of May 1957.)

Evidence was invited from architects in private and public offices known to be interested in this problem and to have tried out new ideas; and in a note in the JOURNAL of February 1957, the Committee issued an open invitation to members to contribute their experience. Interested persons in the field of quantity surveying, building and civil engineering were also approached.

It would seem to be a reflection on the absence of any widespread use of systematic cost control in architectural practice that only one contribution was received in response to the JOURNAL invitation. This and the fifteen other contributions, both written and oral, received as the result of a direct request for evidence is thought to cover the major part of the profession's experience.

There is nevertheless a considerable and growing interest in the subject, as is evidenced by the recent setting up of the Architectural Association Cost Research Committee (who, it is hoped, will be concerned mainly with educational requirements for a proper understanding of cost control and will serve also as a committee of London architects investigating the subject regionally), and the ARCHITECTS' JOURNAL Cost Research Group

(dealing mainly with the framework of information needed by architects and in particular the layout of their information sheets on costs and the definition and groupings of building elements). Informal discussions have already taken place with the Chairman of these Committees and also of the R.I.C.S. Cost Research Panel (whose terms of reference include a review of the information available to the building industry and the need for a focal point for its collection, and also research into the effect on cost of standardisation and repetition in design). The Committee recommend that they be empowered to establish liaison with the above Committees.

The Committee are preparing a summary of the evidence collected which will be available for reference, or publication if desired.

Summary of Conclusions

The following is a summary of the Committee's conclusions from the evidence available:—

1. There is no single system of cost control and cost planning during design that has been established in a public or private office, either by architects or quantity surveyors, which even its protagonists consider to be the full answer to the profession's management problems in cost control.
2. There is, however, general agreement that this control is essential if the profession are to satisfy their clients at large. And a number of tentative methods of cost control have been introduced which are certainly better than nothing. [See, for example, the review in the R.I.B.A. JOURNAL of October 1957 of the Ministry of Education's Cost Study Bulletin No. 4 (second edition).]
3. There is evidence that wherever systematic control has been exercised, even though it may be only partial, it has been to the advantage of the building owner, has enhanced the architect's prestige and, indirectly, has benefited the profession as a whole.
4. The present rough methods of cost control can be used within the existing limits of the cost records available. The successful establishment of a more refined system of control would, however, call for quality and consistency of builders' own cost records, methods and pricing which do not seem to be commonly achieved at present.
5. The effectiveness of the architect's efforts to control costs can be reduced by alteration of client's instructions during the later design stage even before commencement of work on the site.
6. There is a need for a permanent Committee of the Institute to develop interest in and encourage research into problems affecting the cost of buildings, and to correlate the efforts of other Committees and individuals working in the same direction.

Future Programme of Work

The Committee consider that further action is called for on the points listed below:—

- (i) to encourage research into the problem of cost control. For instance, the Committee consider that it would be helpful if the services of an officer of the Institute could be made available to forward their research into cost systems, say, by visiting a number of public and private offices, including some which have no such systems, to find out in more detail how the requirements of the profession can best be met;
- (ii) to examine the means of collecting, organising and disseminating information on the subject of cost control so that it is readily available to the profession as a whole;
- (iii) to encourage the interchange of views on the problem of costs by meetings, discussions and other means, including possibly a week-end symposium at one of the residential colleges;
- (iv) to consider means whereby the subject of cost control can be introduced into the education of the architect;
- (v) to consider the relative importance, in terms of cost, of other factors which generally do not lie directly within the control of architects but which can influence costs to the client. Among these are matters such as town planning delays, variations from the standard building by-laws, the practices of Water Boards and similar authorities, and the practice of District Surveyors under the London Building Acts. Cost information so obtained would be made available to other Committees which are looking at these problems, e.g. the Committee on By-laws and Building Regulations. Also, the cost effects of changes in clients' instructions would be investigated further, with a view to recommending possible action to the Public Relations Committee aimed at producing better informed clients.

Decisions of Council

The Council, at their meeting on 7 January 1958, approved the general outline of the above programme of work and that liaison should be established with other organisations engaged in similar studies. It was not, however, considered that a compelling case had been made out for a permanent Standing Committee, and it was considered that it would be of far greater advantage to work towards an extended study of the problem by an agency sponsored jointly by the R.I.B.A. and R.I.C.S.

The Council were concerned at the number of independent lines of investigation in progress. While thinking that this duplication of machinery ought to be reduced, they agreed to the continuation of the R.I.B.A. Committee in its existing status for a further period of time, during which the possibilities of much closer liaison amounting to a merger of activities should be explored.

Membership of Committee

Membership of the Committee is as follows: Mr. R. Baden Hellard [A], Chairman, Mr. R. Lewelyn Davies [F], Mr. A. Pott [A], Mr. J. Whittle [A], Mr. J. Wilkinson [A], Mr. F. R. S. Yorke [F], Mr. W. J. Reiners, representing the Director of the Building Research Station, and Mr. O. J. Cox [A] and Mr. A. Douglas Jones [F], who both joined the Committee at the beginning of 1958 (after the completion of the report).



I.U.A. Fifth Congress

The International Union of Architects are holding their Fifth Congress in Moscow this year from 20 to 28 July. The theme of the Congress is 'Construction and Reconstruction of Towns, 1945-1957'.

Each National Section of the Union is submitting a report on this subject accompanied by photographs and plans, and a series of exhibition panels illustrating the theme as it applies to their country. The United Kingdom Section have taken as examples for their contribution to the Congress discussions, development work in London, Coventry and Harlow. It is hoped that their contribution to the Moscow Congress exhibition will be on show at the Building Centre before it is dispatched to the U.S.S.R.

The work of the Congress will probably consist of discussions in plenary session and in smaller working groups. Activities of interest will be arranged during the week of the Congress. Mr. Arthur Ling, R.I.B.A. Dist. T.P., M.T.P.I. [F], is acting as one of the Congress rapporteurs who are considering the theme in relation to the achievements of the countries of Western Europe.

The Organising Committee of the Congress are also making arrangements for study tours within the U.S.S.R. after the Congress. It is hoped that more detailed information will be available later.

All members of architectural societies throughout the world will be admitted as ordinary members of the Congress. In addition to these, delegates appointed by associations whose activity is generally concerned with architecture and town planning will also be admitted as members. Delegates appointed by international organisations, by governments, by local authorities and by public bodies and professional organisations are invited to attend the Congress as 'observers'. Architectural students and Press representatives are also invited as 'observers'.

Preliminary inquiries should be made to the Secretary, U.K. Committee, I.U.A., at the R.I.B.A., 66 Portland Place, W.1, as soon as possible, as application forms have to be submitted by 1 March.

Other I.U.A. Notes on page 132.

Some Nineteenth-Century Towers

By Frank I. Jenkins, M.A., B.Arch. (Dunelm) [4]

TOWARDS THE END of the 18th century Anne Radcliffe posed a question which had interested students of the *picturesque* for some time. 'Why is it so sublime', she asked, 'to stand at the foot of a dark tower, and look up its height to the sky and the stars?'¹ Perhaps Dr. Alison had already given as satisfactory an answer as was possible. 'Magnitude in height', he wrote, 'is expressive to us of Elevation and Magnanimity.' These associations were so natural that 'such qualities of mind have, in all ages, been expressed by these images [of height]'.² Croker, as a fashionable but none the less practical Regency gentleman, summed up the position. 'Great height', he wrote, 'is the cheapest way and one of the most certain of obtaining sublimity.'³

The artistic cognoscenti of Regency times thought of height in terms of the *picturesque*, as it was expressed, for instance, in contemporary engravings of Wyatt's tower at Fonthill. To succeeding generations, however, height was to evoke different ideas. In Victorian times the tower became a symbol of the optimism and technical endeavour of the era, a monument to man's mechanical progress and his belief in that progress. Shortly after the turn of the mid-century, Ruskin summed up the 19th-century attitude to tower building. 'Whenever men have become skilful architects', he said, 'there has been a tendency in them to build high; not in any religious feeling, but in mere exuberance of spirit and power—as they dance or sing—with a certain mingling of vanity—like the feeling in which a child builds a tower of cards.'⁴ It was perhaps appropriate that the Washington Monument (1836–84), a conscious and successful attempt to produce 'the highest structure in the world', was erected in the new, vigorous and essentially 19th-century American republic. But significant as it is, the Washington Monument is sufficiently well documented to make any description here unnecessary and we will confine ourselves to less well-known works.

It is a happy accident that the first project for a tower of really giant proportions was for a memorial to the passing of the Reform Act of 1832—a measure which marked the end of Georgian *laissez-faire* and the beginning of a long period of optimistic reform. The tower, which was to be 1,000 ft. high, was to be in cast iron, gilded externally; its designer was the Cornish engineer, Richard Trevithick. Trevithick began work on his design in 1831 when the first Reform Bill was introduced in Parliament. The following year, when the third Bill became law, he published a two-page lithograph of the proposed monument together with a full description.

The tower was to be 1,000 ft. high, circular in plan, tapering from a diameter of 100 ft. at the base to 12 ft. at the top (Fig. 1). It was to be built up in 1,500 sheets of cast iron, each measuring 10 ft. square by 2 in. thick, screwed together through projecting flanges on their edges. The sheets of iron were to be pierced by holes, 'for the purpose of lessening the resistance of the wind and lightening the structure'. The base, with its classical porticos, was to be 60 ft. high, and the 'capital', incorporating a viewing platform, was to be 50 ft. in diameter, crowned with a 40-ft. high equestrian statue of William IV. Although Trevithick's column was to have the classical divisions of base, shaft and capital, and be approached through giant Corinthian, octastyle porticos, the designer wished to please as many schools of architectural thought as possible; the overall proportions of the structure, he wrote, 'would be about the same as the general shape of spires in England'.

A 20 h.p. steam-engine was to be used to hoist the cast-iron sheets into position, and Trevithick estimated that fixing could be carried out at the rate of one sheet per hour, and the whole structure completed within six months. The estimated cost of the monument was £80,000.

One of the most interesting features of the project was the steam lift which its designer proposed. The well-known Strutt and Frost designs were not published until 1835, and Trevithick's proposals were therefore quite revolutionary. Through the tower was to pass a 10-ft. diameter cast-iron cylinder; in this the lift was to move in the manner of a piston, being forced up by compressed air generated by a steam-engine at the base. By releasing valves, the pressure of the compressed air supporting the lift in the cylinder could be reduced, and the lift lowered. As the designer's son noted, with filial admiration and picturesque phraseology, '... some make a long journey to the great pyramids, 500 feet high. How much more pleasant would be Trevithick's proposed floating 1,000 feet upwards on an air-cushion, controlled by his high-pressure steam-engine, and having from the loftiest pedestal of human art, surveyed Imperial London, to be again lowered to the everyday level at a safe speed'.¹

Early in 1833 the proposals for the Reform Monument were placed before the king, being acknowledged in a letter dated 1 March of that year. But within two months Trevithick died, and with him interest in the great gilded column. The scheme attracted but little attention when it was resurrected and suggested as a memorial to Prince Albert in 1862.²

¹ Francis Trevithick, *Life of Richard Trevithick with an Account of his Inventions*, London, 1872, p. 393.
² H. W. Dickinson and A. Titley, *Richard Trevithick, the Engineer and the Man*, Cambridge, 1934, p. 252.

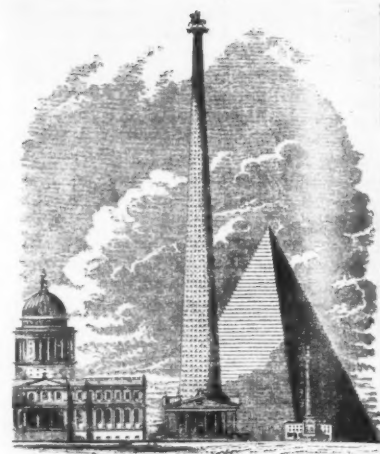


Fig. 1: Richard Trevithick, 'Design for a gilded national monument of cast-iron ... in commemoration of the passing of the Reform Act', 1832.

The monument is shown in relation to the Pyramid of Cheops, St. Paul's Cathedral and the Monument, London.

By courtesy of the Trustees of the British Museum

It may have been the unusual form of the column, coupled with its political reminders, which caused interest to wane so quickly in the project. On the other hand, the structural feasibility of the scheme is open to grave doubt! Despite the holes to be cut in the iron plates, 'for the purpose of lessening the resistance of the wind and lightening the structure', the wind loads would have been immense. Trevithick's casual reference to the 'circular stone foundation six feet wide', suggests that the engineer was not fully aware of the implications of a 6,000-ton load, nor of the colossal moment set up on a 1,000-ft. high structure. Nevertheless, Trevithick's project remains as evidence of the spirit and enterprise of early structural pioneers. In the words of the engineer's son, 'To Trevithick's soaring genius nothing appeared very small or very large, or very costly.' The vision of a golden tower, nearly three times as high as St. Paul's, rising through the mist and smoke of London, was a glorious one, and one which perhaps only the 19th century could have produced.

Nineteen years later Victorian exuberance reached its zenith with the Great Exhibition, but on the latter's conclusion a problem arose as to the best method of disposing of the great iron and glass structure which had received such wide acclaim. Several suggestions were put forward in *THE BUILDER* for 1852. A Mr. C. B. Allen proposed 'the conversion of the materials into a pyramid based on an area equal to that of the Great Egyptian Pyramid', while another correspondent, 'W. B.', wished 'the iron railing which at present surrounds the structure to remain exactly as it now stands, the enclosed space to be converted into an ornamental shrubbery, with walks open to the public;

¹ Anne Radcliffe, *Journals*, 1797.

² A. Alison, *Essay on the Nature and Principles of Taste*, Edinburgh, 1815, vol. 1, p. 325 (1st ed. 1790).

³ Croker Papers, vol. 1, p. 57.

⁴ John Ruskin, *Lectures on Architecture and Painting*, delivered at Edinburgh, November 1853.

a statue of His Highness Prince Albert to be placed at the east or west end with other such appropriate ornaments as good taste may suggest'. THE BUILDER's own proposal was 'that the exact outline of the area [of the Exhibition building] should be planted with trees'.¹

But a much more exciting proposal than any of these was made by a certain C. Burton, architect. Burton proposed to build a 1,000-ft. high tower with iron and glass salvaged from the demolition of the exhibition building.² It would be pleasant to think of Burton as one of the nine brothers of Decimus, or at least as related in some way to his namesake, who had already designed some remarkable ferro-vitreous buildings, but the writer has been unable to find evidence for any such connection.

Burton's project consisted of a number of towers, telescoped as it were within one another, each tower section being an independent structure with its iron framework carried down to the foundations (Figs. 2 and 3). The highest tower, 1,000 ft. high, was to be octagonal in plan and rise through a lower tower, a decagon in plan and 840 ft. high. The latter was to rise from a 660-ft. high tower which, at a lower level, was telescoped within a further tower, square in plan and rising to a height of 440 ft. This in turn was to rise from a broader structure, 198 ft. high.

The public were to be transported to the glazed galleries at the top of the octagonal tower by 'four carriages or ascending rooms'. These were to be 'continually running on, or rather up, a vertical railway'. It is unfortunate that these are the only details we have of these intriguing conveyances, and it is difficult to gather exactly what Burton had in mind.

Despite the fact that Messrs. Fox and Henderson, the contractors for the original exhibition building, 'expressed their conviction that the project could be carried out', little interest seems to have been shown in the scheme, and ultimately the exhibition building was purchased by a specially formed company and re-erected, with slight modifications, as the Crystal Palace at Sydenham.

It is interesting to note that Burton had passed over London in the famous Nassau balloon. He could, he wrote, 'speak feelingly as to the wonderful appearance of the Great Metropolis and the lovely scenery surrounding it, from an elevation of one thousand feet'. From his tower, he claimed, it would be possible to view the country 'for a hundred miles round London . . . without the risk of a balloon descent'.

With the example of the 1851 Exhibition before them, it was natural that the people of America, or more specifically New York, should turn their attention to a similar display of enterprise. American journals were conscious of Paxton's achievement, and felt strongly that his building should at least be rivalled by that to be erected at New York. 'Unless our New York Com-

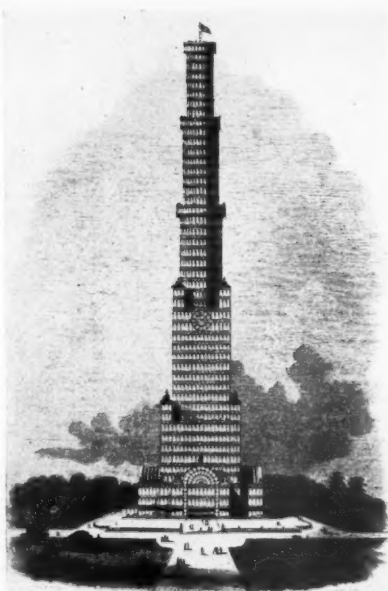


Fig. 2: C. Burton, 'Design for the Conversion of the Exhibition building into a Tower 1,000 ft. high', 1852.

From THE BUILDER

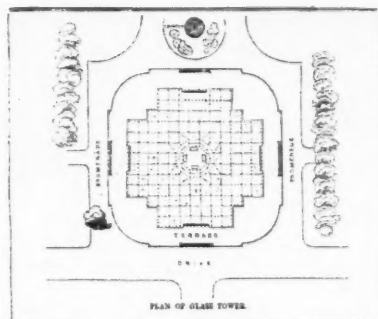


Fig. 3: Burton's Tower Project—Plan

From THE BUILDER

pany erects a building of a beautiful and unique design, the reputation of our country and city will suffer more than they will gain by it—gentlemen, you must look

to beauty and originality, or you will surely lose both profit and praise by the operation.¹

Paxton actually submitted a design for the New York building, but compared with his work at London it was singularly dull. Perhaps as a knighted designer he felt that it was his duty to pay more deference to historical architecture. His project was of a basilican form, with rows of Puginesque dormers along the eaves, and roofed with slate—to cater for the heavy snow load anticipated in America. As a contemporary writer noted, of all the designs submitted, 'the one by Mr. Bogardus is far the best in every respect—in beauty, grandeur, originality, strength, simplicity and economy'.² If perhaps not the best in practicability, it was certainly one of the most exciting and imaginative schemes projected in the 19th century (Fig. 4).

Bogardus was already establishing a reputation in America for his cast-iron buildings, and his project embodied the principles he employed in these.³ His exhibition hall, in the form of a giant 60-ft. high amphitheatre, was to cover the entire site. It was to be constructed entirely of iron and glass. From the centre of the amphitheatre, an iron and glass tower was to rise, 'to serve the double purpose of a support for the hanging roof of sheet iron, suspended from it by rods in a catenary curve, and also as a grand observatory'.⁴

Bogardus's tower was to be 300 ft. high; in silhouette rather similar to Burton's project. It was to be provided with a steam-powered mechanism for 'hoisting observers to the top'. It is regrettable that this is the only information we have about the steam lift, but it is interesting to note that Elisha Graves Otis exhibited his safety lift at the 1853 Exhibition.

The tower was to be made up of a series of drums, framed with iron columns and entablatures, and glazed. A similar method of construction was proposed for the main

¹ SCIENTIFIC AMERICAN, vol. vii, 1852, p. 324.

² Ibid.

³ Dr. Turpin Bannister is, of course, the authority on cast iron in building. For the most recent assessment of Bogardus see his 'Bogardus Revisited', JOURNAL OF THE SOCIETY OF ARCHITECTURAL HISTORIANS, December 1956, pp. 12-22.

⁴ B. Silliman and C. R. Goodrich, *The World of Science, Art and Industry*, New York, 1854, p. 2.

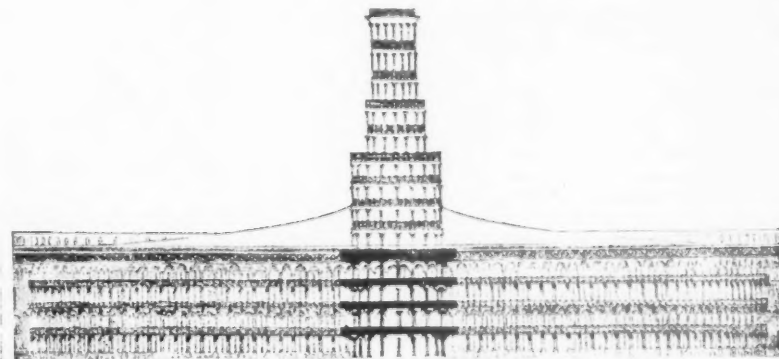


Fig. 4: James Bogardus, 'Project for the New York Exhibition of 1853'.

From THE WORLD OF SCIENCE, ART AND INDUSTRY, New York, 1854

¹ THE BUILDER, vol. x, 1852, p. 302.

² Ibid., p. 280.

hall, with a façade reminiscent of the Colosseum, its arcades and 'attached' columns being of cast iron. Bogardus prided himself on the architectural quality of his iron designs. It was in 1840, 'whilst in Italy, contemplating there the rich architectural designs of antiquity', that he 'first conceived the idea of emulating them in modern times, by the aid of cast iron', he tells us in a pamphlet published in 1856.¹ The same pamphlet outlines the method of construction which would have been employed on the New York project. 'The cast-iron frame of the building rests upon sills which are cast in sections of any required length. These sills, by the aid of the planing machine, are made of equal thickness . . . they are laid upon stone foundations and are fastened together with bolts. On the joints of the sills stand the columns or pilasters, all exactly equal in height . . . each column is firmly bolted to the ends of the two adjacent sills on which it rests. These columns support another series of sills, fascias or cornices . . . they are bolted to the columns and to each other in the same manner as before.' This would be repeated for each storey of a building. Such a method enabled a building to be raised 'to a height vastly greater than by any other known means, without impairing its stability in the least'.²

The *SCIENTIFIC AMERICAN* noted an important advantage possessed by the Bogardus project for New York: 'One grand element in the calculation—a truly American one—is that, after it has accomplished its object in the Exhibition, it can be taken down in parts, and fitted up into a number of public and private dwellings. All the parts are so cast and fitted that they can be taken to any part of the world, and will all dovetail together.'³ About this time, as we have noted, the problem of the disposal of the London Exhibition building was causing much discussion, and references to it occur in contemporary American journals. This may have influenced Bogardus in his design; it would certainly have encouraged its favourable reception. The project, however, was not realised and Bogardus's exciting proposals for a roof, in area over 125,000 sq. ft., suspended from a 300-ft. high tower, remained only on paper.

The projects discussed so far were to have been constructed in cast iron. We will now turn our attention to a monument of more conventional construction, but which was, nevertheless, a wonderful structural achievement. In 1864 the Jewish community of Turin decided to erect a great synagogue in the city and commissioned Antonelli of Novara to prepare a design. The building which resulted was fantastic, even for the 19th century (Fig. 5). The illustration shows the structure in 1876,

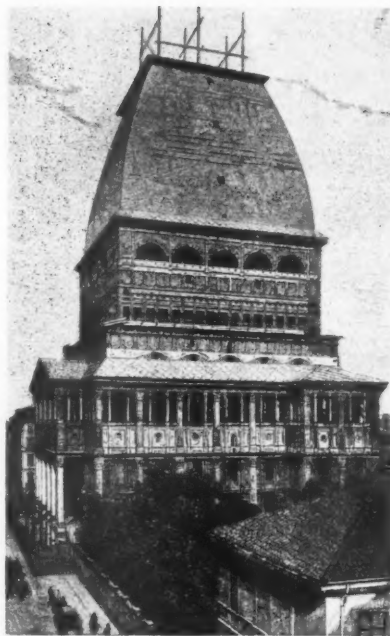


Fig. 5: Antonelli of Novara, 'Synagogue, Turin, 1864-1881'.

From THE BUILDER

before it was completed. Ultimately the vault, consciously modelled on Brunelleschi's dome at Florence,¹ was crowned by a lantern, incorporating in its base two storeys of superimposed orders, terminated by pediments. Above the base, the lantern becomes circular in plan and rises, like a giant wedding cake, in six diminishing tiers, enriched with columns, entablatures and other decoration. The building terminates in a steep spire and has a total height of 541 ft.

All did not go smoothly with the progress of the building and work on it was completely suspended for eight years, from 1869 to 1877.² A testimonial to its designer and builders lies in the fact that for this period the incomplete structure, without any covering, was exposed to the weather, and yet, it was reported in 1876, 'not a crack, not a yielding is seen in any part'.³

The building, however, is more than an example of sound construction. Antonelli tried to answer virtually the same aesthetic problems which were later to confound the architects of American skyscrapers, and which have been solved only within the last thirty years. The *Mole Antonelliana*, as it became known, expresses an important facet of 19th-century design—the conflict, growing throughout the century, between nostalgic eclecticism and technical endeavour.

Erastus Field's *Historical Monument of the American Republic*, painted in the 1870's, provides an even clearer example of this conflict; it shows the same pre-

occupation with height seen in the projects already discussed and a very real concern with architectural history. It provides a fascinating record of the 19th century, seen through the eyes of a painter uninhibited by pre-Raphaelitism and gives a strangely prophetic picture of future developments in Manhattan¹ (Fig. 6).

From a formal garden, reminiscent of the brand-new park of an industrial town, rise ten great towers, circular and polygonal in plan, made up of sections diminishing as they rise. These are encrusted with an incredible array of architectural bric-à-brac. Almost every style is represented—Egyptian, Greek, Roman, even medieval machicolations are introduced. Seven of the telescope-like towers are joined near their summits by delicate iron suspension bridges, across which steam-trains puff. The steam-trains on their iron bridges and the eclectic details of the towers express the same sort of conflict that can be seen in such buildings as Scott's St. Pancras Station. Chicago's Tribune Tower reminds us that the same conflict existed well into the present century.

Field intended his monument to be built in Washington, D.C., and petitioned Congress to this end. His petition was unsuccessful but, in 1876, he published a *Descriptive Catalogue* together with a large engraving of the painting. 'A professed architect,' he says in the *Catalogue*, 'on looking at this picture, might have the impression that a structure built in this form would not stand.' He goes on: 'The idea is this, to build after the model (supposing such a thing took place), it would be necessary to fill up with stones or concrete in one solid mass all but the center and the entrance through each tower, on account of each succeeding section receding. The center in each tower could be sufficiently large for circular stairs to reach the top. The entrance from each side to the center, and also from the center to each of the platforms on each section, might be arched over.' It was also suggested that various halls and chambers might be hollowed out of the structure.

Field's aim had been, he wrote, 'to get up a brief history of our country, or epitome, in a monumental form'. Every piece of decoration on the towers was descriptive of some incident in American history. Events, from the founding of Jamestown to the trial of a 'whisky ring', are indicated symbolically and explained in the *Descriptive Catalogue*. Field gives no indication of the dimensions of the proposed monument—but it would have been an immense structure, since he intended the top of the central tower to serve as the site for the Centennial Exhibition!²

The 'Historical Monument' was intended to commemorate the centennial of American independence. The idea of a monument to the achievement of the young republic was

¹ For more about Field see A. M. Dodds, 'A check list of portraits and paintings by Erastus Salisbury Field' in *Art in America*, 1944, pp. 32-40.

² E. S. Field, *Descriptive Catalogue of the Historical Monument of the American Republic*, Amherst, Massachusetts, 1876. I am indebted to Mr. F. B. Robinson, Director of the Museum of Fine Arts, Springfield, Mass., for drawing my attention to this interesting publication.

¹ J. Bogardus, *Cast Iron Buildings: their construction and advantages*, New York, 1856, p. 4.

² A note by Bogardus prefacing the text acknowledges that the pamphlet was in fact written by a J. W. Thomson.

³ *Ibid.*

⁴ *SCIENTIFIC AMERICAN*, vol. vii, 1852, p. 361.

With regard to the re-use of the elements of the scheme, the following is worth noting: 'The curve is so gentle that no deviation from a straight line was requisite to secure the whole circular form of the amphitheatre.' Silliman and Goodrich, *op. cit.*

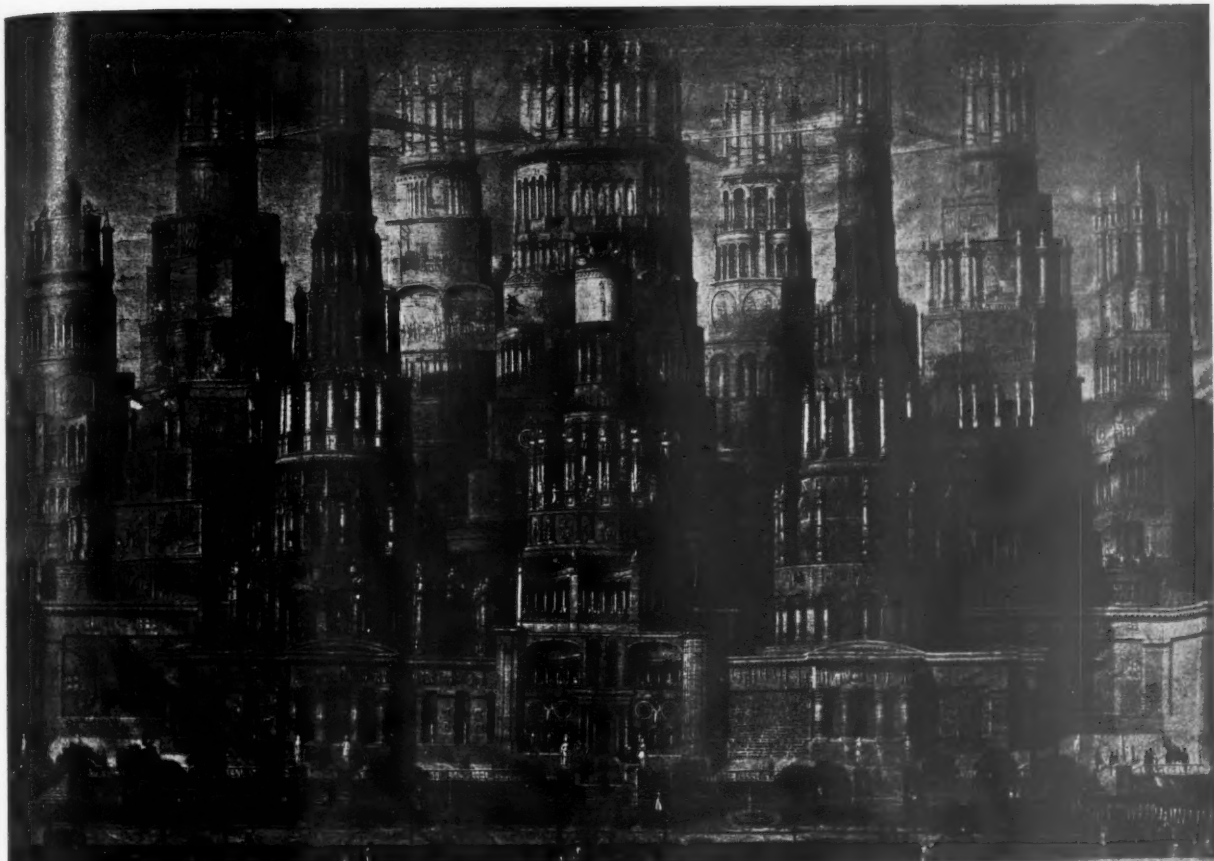


Fig. 6: LUDWIG SALISBURY FIELD, 'Historical Monument of the American Republic', c. 1875

By courtesy of the Morgan Wesson Collection of the Museum of Fine Arts, Springfield, Mass., U.S.A.

in the minds of other designers of the time. One of the most exciting was that projected by Messrs. Clarke and Reeves of Phoenixville.

They proposed, as Trevithick and Burton had done before them, to build a giant tower in iron, 1,000 ft. high. The plan of the tower was to be circular, 150 ft. in diameter at the base, diminishing to 30 ft. at the top. Perhaps the most remarkable thing about the project was its complete disregard for current architectural theory. Although the entrances to the tower were to be through medieval archways, these were completely subordinated to the main idea, a delicately latticed shaft of metal, a structure for structure's sake (Fig. 7).

The designers were very conscious of the importance of wind loads in a project of this kind and reduced the bearing surface of their tower to a minimum. The tower was to be framed with wrought iron 'Phoenix Columns', a proprietary product of the Clarke and Reeves factory, the Phoenixville Bridge Works, made up of lengths of iron of segmental section bolted together through projecting flanges to form hollow, tubular units. The main vertical framing was to be braced diagonally by similar iron tubes of smaller section. Allowing a side wind force of 50 lb. per square inch, it was

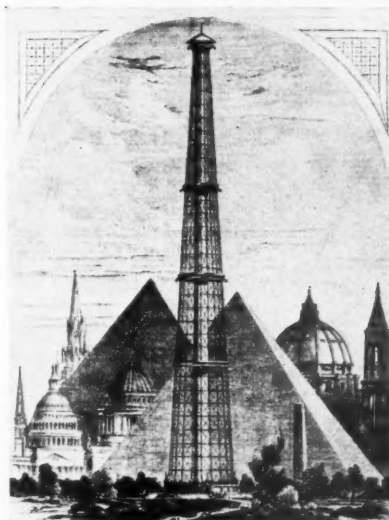


Fig. 7: Messrs. Clarke and Reeves, 'Centennial Tower', 1874. The project is shown in relation to (L-R) Trinity Church, New York; Capitol, Washington; Chartres Cathedral; Pyramid of Cheops; St. Paul's, London; Pyramid of Chephren; Bunker Hill Monument, Boston; St. Peter's, Rome; Strassburg Cathedral.

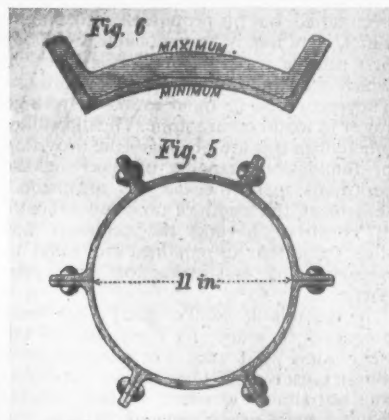


Fig. 8: Messrs. Clarke and Reeves, 'Centennial Tower'. Details of 'Phoenix Columns'.

Figs. 7 and 8 from SCIENTIFIC AMERICAN—by courtesy of the Trustees of the British Museum

estimated that the strain on the lowest columns would not exceed 5,000 lb. per square inch (Fig. 8).

Through the centre of the tower was to pass a 30-ft. diameter shaft accommodating four lifts. These were 'to ascend in three

minutes and descend in five minutes, so as to be capable of transporting about 500 persons per hour'.¹ In addition there was to be a spiral staircase, winding around the central shaft (Fig. 9).

The tower was intended for a site adjoining the forthcoming Centennial Exposition in Philadelphia, and it was suggested that the latter might be illuminated by calcium and electric lights on the tower. This foreshadows the project of M. Sebillot who, in 1881, proposed to light Paris by electric lamps fixed to a structure of similar height. Eiffel suggests that Sebillot's scheme had its origin in America, and the latter may have been familiar with the Philadelphia project.²

The SCIENTIFIC AMERICAN was enthusiastic about the Philadelphia tower. 'As did the descendants of Noah', it declared, 'so propose we to do. . . . And to its prototype, Babel, a pile of sun-dried clay which authorities assert, at the hour of the confusion of tongues, had not attained an altitude of over one hundred and fifty-six feet, the graceful shaft of metal, rearing its summit a thousand feet above the ground, forms a fitting contrast, typical of the knowledge and skill which intervening ages have taught mankind'.³ It was peculiarly fitting for a monument to the centennial of the American Republic: 'Not only . . . shall we commemorate our birthday by the loftiest structure ever built by man, but by an edifice designed by American engineers, reared by American mechanics, and constructed of material purely the produce of American soil.'

Despite this and the fact that the designers estimated the tower would take less than a year to complete, the project obtained little support and was soon abandoned.

Sebillot's scheme for lighting Paris has been noted, but his proposals, according to Eiffel, were highly impracticable. Sebillot's first scheme was followed by another, in which he was partnered by Bourdais.⁴ They proposed to build a 300-metre high tower in load-bearing stone. The difficulties inherent in this are obvious—the provision of foundations capable of receiving the enormous load, the dangers of unequal settlement, the length of time and difficulty of construction—and the proposal was soon forgotten. It remained for Eiffel to construct the first tower of these proportions.

In the middle 1880's, the French were preparing to mark the centennial of the Revolution by a great international exhibition. Gustave Eiffel had already produced such structural wonders as the Garabit viaduct and, as he related, it was the results of his studies on this type of work which led him to propose the construction

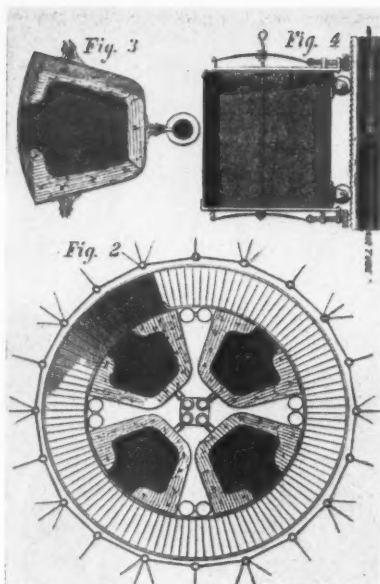


Fig. 9: Messrs. Clarke and Reeves, 'Centennial Tower'.

Plan of tower and details of lift.

From SCIENTIFIC AMERICAN—by courtesy of the Trustees of the British Museum

of a 300-metre high tower for the forthcoming exhibition. The form of the tower is too well known and its history too well documented to warrant a full description here. It will suffice to recall the fundamental idea behind the design, which differs so widely from the projects already discussed.



Fig. 10: The Eiffel Tower.

From 'La Tour Eiffel'

In Eiffel's own words, 'The tower was designed in the form of a pyramid, with four curved supports, isolated from each other and joined only by the platforms of the different stories'.¹ This considerably increased the stability of the structure, while the curve of the supports was formed in such a way 'as to offer least resistance to the wind'.

In 1889 a writer commented on the tower: 'It rises like a delicate lattice of wires, and, as a whole, is all full of poesy'.² The public were equally enthusiastic: 1,968,287 persons ascended the tower in the year of the exhibition. William Morris, as one might expect, was less enthusiastic. The reason he did much of his writing on the galleries of the tower was, he explained, because that was the only place in Paris where one could not see the structure. In the early days of the project, disapproval had been more violent. In February 1887 the famous *Protestation des Artistes* was made, 'in the name of French good taste, in the name of Art and in the name of menaced French history', against the 'Tower of Babel', which 'even commercial America would not want'.³

But the tower had its defenders and the *Protestation* failed. In the year of the Exhibition, a writer exclaimed, '... we can no longer deny that the gigantic work is absolutely beautiful. It is for our epoch ... what the great pyramid, which interpreted the efforts of an entire people, was for the ancient world. . . . The work that Mr. Eiffel will have had the glory of carrying out is, in fact, the expression of the applied sciences of our time'.⁴

Eiffel reached the goal for which engineers had striven for nearly sixty years. His tower stands as a symbol of 19th-century optimism and transcendentalism. It is the product of an age of positive values—although already, at the time of its erection, these values were shifting and weakening. In England, in the '90's, the earlier Victorian vigour was being replaced by the nostalgia of Walter Pater and the exoticism, intimately related to the *art nouveau* movement, of Beardsley. Architecturally, it was the age of romantic country houses and smug Government buildings; the age of Norman Shaw. America, however, engrossed in her own development, was hardly aware of the closing century and, despite Mr. Wilde's visit to the Middle West on behalf of *Patience*, continued on her brash and lusty path of self-improvement. The Chicago World's Fair of 1893 was an unqualified success. Architecturally, it at least strength-

¹ G. Eiffel, 'The Eiffel Tower', THE SMITHSONIAN INSTITUTION REPORT, 1889, p. 730.

² SCIENTIFIC AMERICAN, 1889, p. 311 (reprinted in translation from LA NATURE).

³ The text of the *Protestation* is given in Eiffel, *La Tour Eiffel* en 1900, pp. 10-11.

⁴ SCIENTIFIC AMERICAN, 1889, pp. 311-12.

Not only was the Eiffel tower a great technical achievement, it was also a highly profitable enterprise. It is therefore not surprising to find in London, in 1889, the formation of the *Tower Company Limited*. This body proposed to erect in London a tower preferably even higher and more financially profitable than that in Paris. The company promoted a competition for the proposed tower and Mr. J. M. Richards has drawn attention to some of the schemes submitted. J. M. Richards, 'A Tower for London', ARCHITECTURAL REVIEW, vol. LXXXIII, 1940, pp. 141-44.

¹ SCIENTIFIC AMERICAN, 1874, p. 50.

² G. Eiffel, *La Tour Eiffel* en 1900, Paris, 1902, p. 2. 'En 1881, M. Sebillot revint d'Amérique avec le dessin d'une tour en fer de 300 m., surmonté d'un foyer électrique pour l'éclairage de Paris.'

In 1848, James S. Buckingham had proposed to light his model town, Victoria, in a similar way, although the tower was considerably shorter.

³ SCIENTIFIC AMERICAN, op. cit.

⁴ Later, Bourdais was to submit a scheme, in competition with Eiffel and other designers, for a tower for the 1889 Exhibition.

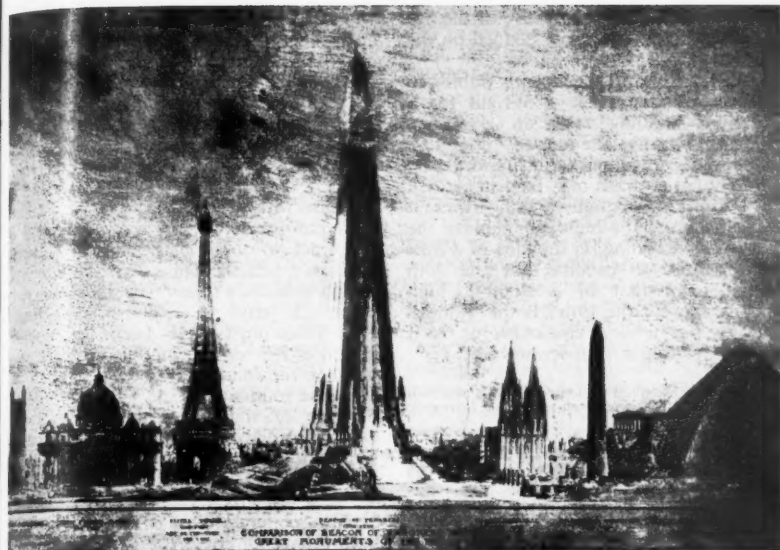


Fig. 11: Désiré Despradelle, 'Design for a Beacon of Progress'. 1900.

The project is shown in relation to (from left to right): an unspecified American office building; St. Peter's, Rome; Eiffel Tower; Arc de Triomphe; Cologne Cathedral; Washington Monument; Pyramid of Cheops.

From PENCIL POINTS

ened the cause of the École des Beaux Arts; in a broader sphere, the exhibition reinforced the American belief in commercial and mechanical progress.

In the year of the Fair, Désiré Despradelle, a talented member of the École, left France to teach architectural design at M.I.T. Shortly after his arrival in the United States, he commenced work on his designs for a 'Beacon of Progress' to stand on the site of the Fair, by Lake Michigan (Figs. 11 and 12).

Originally the Beacon was to be 1,000 ft. high. But under the hands of the architect it grew—eventually to 1,500 ft. The design resembles a giant obelisk, a form which, through Willard's Bunker Hill Monument and Mill's Washington Monument, had acquired peculiarly American associations. The drawings, possessing something of the dramatic quality and vigorous movement of Piranesi engravings, were exhibited at the Salon of 1900 and caused a great sensation. Nevertheless, the project was not realised. Apart from the phenomenal cost of the building, the difficulties would have been tremendous in providing an adequate foundation on the lake-side for a 1,500-ft. high structure in solid granite.

Despradelle's imagination was hardly balanced by his practicality. After the finished drawings had been rendered, loads were checked and it was found, because of the 50 per cent increase in height, that adequate bearing could not be obtained, without considerably reducing the area of the internal hall, or moving this high up the monument, where access would have been difficult. Despradelle is reported to have commented, 'Well, we shall have to restudy the size of the chamber—or, if there isn't time, we shall have to put in some steel.'¹

¹ PENCIL POINTS, vol. vi, 1925, p. 70.

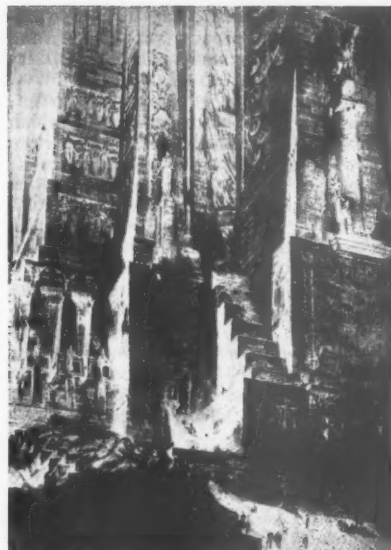


Fig. 12: Désiré Despradelle, 'Beacon of Progress', Detail.

From PENCIL POINTS

Another interesting project was that by the American sculptor, Ruckstull, for a 'National Peace Monument'. Originally the monument was to have been 600 ft. high and sited on Inwood Hill, New York. The design was published in the New York papers and Ruckstull was encouraged to

extend the tower to 1,000 ft. The new design was exhibited at the Paris Salon of 1904.¹

Unlike Despradelle's Beacon, the Peace Monument, behind its bronze statuary and 'rose-colored terra-cotta plates', was to be steel-framed. The base was to house a great foyer, above which were to be lecture and music rooms. The tower itself was to have 20 stories, in their decoration representing the 'contributions to peace' of each of the 20 centuries of the Christian era. A huge bronze Corinthian capital was to crown the tower, surmounted by 'a revolving glass globe, forty feet in diameter', carrying a light, visible for 100 miles out to sea! A wireless station and weather observatory were also to be incorporated.

Within a decade of the exhibition of Ruckstull's Peace Monument, however, the world was to witness war on an unprecedented scale. The essentially 19th-century ideal of 'progress', to which Despradelle's Beacon had been dedicated, gave way before the cynicism of the post-war years. New theories of relativity were soon to permeate all fields of human activity; doubt replaced optimism; enthusiasm gave way to caution. Between the wars, it is true some exhibition towers were built or projected, but they seem to lack the soaring aspiration of Trevithick's Monument or Eiffel's Tower. A notable exception was Freyssinet's 2,300-ft. high tower, in reinforced concrete, projected for the Paris Exhibition of 1937 (Fig. 13). The skyscrapers of the '20's and '30's were 'tall buildings' rather than symbolic structures in the sense of the Clarke and Reeves project and the Washington Monument. They were, basically, the product of a commercially dominated society; an

¹ The project is illustrated in F. W. Ruckstull, *Great Works of Art*, New York, 1925, pp. 535-36.

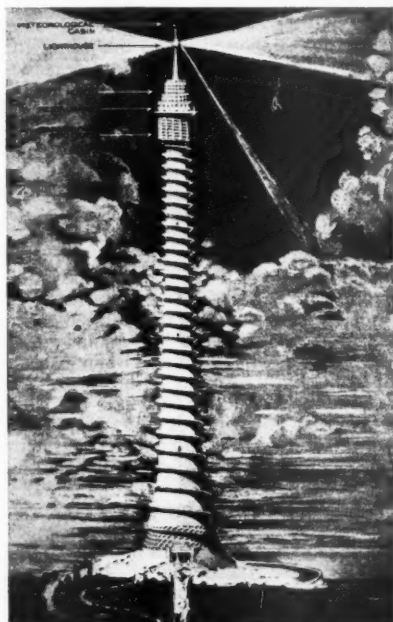


Fig. 13: Freyssinet, 'Project for Paris Exhibition of 1937'.

2,300 ft. high, in reinforced concrete, with garaging for 400 cars, a restaurant, an hotel, a lighthouse and a meteorological cabin all at the summit, approached by a winding ramp.

From ARCHITECTURAL RECORD

attempt—short-sighted, as it now transpires—to exploit population densities and so increase the commercial value of city lots.

The 'exuberance of spirit and power', the feelings of ambition and rivalry which prompted the medieval builders to raise the spire of Salisbury, the noblemen of Bologna to create the fascinating sky-line of their city, and the engineers and architects of the 19th century to produce the designs discussed in this article, seemed to have disappeared. It is significant that, of the many schemes submitted for the Vertical Feature for the Festival of Britain exhibition in 1951, the design selected was not a tower—although many tower projects were submitted. The executed design—a long, cigar-shaped structure in delicately latticed metal, apparently poised in space—

seemed perhaps more expressive of the age than a soaring tower firmly bedded on the earth.

In the light of this, the recently published proposals of Frank Lloyd Wright for a mile high building take on a special significance.¹ Any attempt to rationalise the proposals, any attempt to support them on functional grounds may be disregarded. The 'Illinois' is essentially a giant tower; it offers an excuse for building high for the sheer joy of so doing. Is the idea of a mile high structure to become, for the 20th century, what that of a 1,000-ft. high structure was for the 19th? Is the 'Illinois' throwing out a new challenge, or is it merely extending a 19th-century idea?

¹ Illustrations and a description of Wright's proposals were published in ARCHITECTURAL FORUM for November 1956.

Bridging the Gaps

Report of a Symposium organised by the Preston, Blackburn and District Society of Architects. Held at Preston, 6–8 December 1957

THIS MOST SUCCESSFUL SYMPOSIUM, attended by 67 architects, quantity surveyors and builders, was a successor to the symposium *Gaps in Building Know-How* held in December 1956. As before, it was held at Alston Hall, a country mansion now converted to a college of further education, and was residential. Some dozen applications had to be refused on account of lack of accommodation.

Co-operating with the Preston, Blackburn and District Society of Architects were the Building Centre, the Lancashire, Cheshire and Isle of Man Branch of the R.I.C.S., and the North Western Federation of Building Trades Employers. All three sections of the industry were well represented. The chair was taken by Mr. Tom Mellor [F], President of the Preston Society.

At the opening meeting the President said that the symposium was designed to follow on from the earlier one by indicating methods by which the building industry could solve its common problems. He pointed out that the training methods in the industry were aimed at separation and not at collective action, and it seemed to him that separation was inappropriate in a world of hard economic fact. This did not infer some form of commercial union but a willingness to work together on problems of job organisation, costs, training and public relations.

Mr. William A. Allen [A], Chief Architect of the Building Research Station, in his paper *Trial and Error*, began by describing the B.R.S. organisation. He said it was not a mere laboratory for testing materials but undertook research in the widest modern sense, including economics and cost control. It operated by the scientific method of first collecting relevant information, then forming a hypothesis and then testing

the hypothesis. The object was to roll back the frontier of knowledge to eliminate mystiques and hunches.

The fundamental organisation of the building industry was (1) the acquiring of knowledge which was the task of the scientist or other research worker, (2) the organisation of knowledge for use which was the task of the professional side, (3) construction, which was the job of the builder, craftsman and materials manufacturer. These sections were still largely independent but there was a great need for full integration of them.

Mr. Allen then discussed 'Innovation and Conservatism'. He said that at present there was widespread pursuit of innovation for its own sake. Much had been gained by it in that the capacity to explore had been developed but the attitude to refinement had been lost. Today, innovation ought to be based on a knowledge of principles, whereas it was too often based on aesthetic concept. He quoted three examples of this—curtain walling, stair tread nosings and the open fireplace.

Of curtain walling, he said that this represented an enormous effort of trial and error based on a predominantly aesthetic idea. It was a collective effort of organisation which had resulted in the building up of a considerable industry. However, curtain walling had not so far saved much money and many examples had leaked. He felt that some types would be abandoned.

Of stair tread nosings, he said that fashion for an angle had led sometimes to the abandonment of the traditional rounded nosing with the result that staircases had become much less safe. He had found this in his own house and had had the nosings altered after he and his family had fallen on the staircase several times.

Many novel fireplaces had been designed

and often they smoked because people did not realise the relation that had to exist between the opening and the flue if the smoke-laden air was to be caught. Some quite simple aerodynamics had to be understood. He went on to quote James Thurber: 'Get it right or leave it alone. The conclusion you jump to may be your own.'

Conservatism, he said, was no better than innovation. There was at present a resistance to the construction of thermal walls in much the same way as there had been a resistance to cavity walls, which had taken 25 years to establish. The years 1920–1940 must have been the coldest period of British housing but we were now back on the road to comfort at last.

House foundations, he said, were based on rule of thumb, archaic by-laws and out-of-date textbooks. Loads on house foundations had seldom caused failures but shrinkage had caused plenty of them.

From modern studies it was clear that external concrete must be of good quality, with full $1\frac{1}{2}$ in. cover for reinforcement to ensure even a reasonable life without trouble. Generally speaking, it had not been easy to get good site concrete here, but factory products were good.

Innovation and conservatism had cost the country millions. There was no substitute for knowledge.

Turning to cost control, he said that architects seemed to have lost the feeling for cost. They often indulged in such things as 'complicated bits of wallery' which any builder could have told them were expensive. There was need for order and consistency in structure and simplicity and buildability in design. The consistency should extend from the furnishings through the structure, the services and the exterior to the environment.

He had few complaints about the quality of British materials but a great many about their design. There was no justification today for making a material which was not beautiful. He felt that architects might be consulted more on the design of materials and items of equipment though it was not easy to find architects who had the right approach to manufacturing problems.

Mr. S. Johnson Marshall [F], speaking on *A Grammar of Modern Building*, said that the Industrial Revolution had been responsible for the sub-divisions in the industry and had introduced specialists. In the early 19th century business men had become the chief clients. They were used to hard bargaining and the competitive tendering system had been introduced. This had led to the divorcing of the sections of the industry and to design becoming more and more academic while the art of building became commercialised. One result had been that craftsmen were trained on designs which were unbearable to architects, and architects designed things which were sneered at by craftsmen.

We must get back to combined operations and, to be effective, the combined operations must be practical. We had to give better service and better value for

money. This might mean different types of organisation for different building types.

He then described the experience of the Hertfordshire County Architect's office in a combined operation on one type of building—schools—for which 'a small grammar' had been evolved.

The problem in Hertfordshire had been the shortage of craftsmen and not shortage of money, and they had been faced with an urgent demand for school places. A team had been created, consisting first of the intelligent client in the form of the County Education Authority and the Ministry of Education. The second member of the team had been the Building Research Station and the quantity surveyor the third. Unfortunately, they had been cut off by standing orders on competitive tendering from including the builder as the fourth member of the team, and had had to turn to the manufacturer, the builder becoming an assembler of components.

A range of standardised components had been evolved which gave almost infinite variation in size and plan type of school. This 'small grammar' used in a combined operation had succeeded in meeting the school demand in Hertfordshire. It had been so successful that 25 per cent of the post-war schools in the country had been built with it.

He deplored the fact that the demand for competitive tendering did not allow proper joint operation with the builder. We could not obtain the best building without it. Architects alone could not change this system nor could it be done at low level.

In the discussion on Mr. Johnson Marshall's paper the President pointed out that there were three ways of overcoming the handicap of the system, namely by negotiated contracts, by co-operation outside jobs, such as this present symposium, and in training.

Mr. H. S. Oddie, President of the Institute of Builders, feared that there might be a loss of professional independence if the architect were to abrogate his authority too much. He felt also that both the industry and mankind in general flourished best under competition and that some element of competition should be retained.

Mr. Howard Close, M.A., Contracts and Legal Adviser to the N.F.B.T.E., gave a paper entitled *Bound by Contract*. He said that the component sections comprising the building industry had long recognised 'mutuality of interest' in contract matters and had co-operated to get them on a sound basis. They had done this by the issue of standard conditions of contract which were fair and reasonable to both parties—the building owner and the builder—conditions which also prescribed the duties of the architect and quantity surveyor.

The basis was freedom of contract. This meant that, unlike some other countries, contract law in building was made by the industry itself and it was thus a disciplined freedom in true English tradition. This great co-operation he felt, was insuffi-

ciently recognised. It had taken over 100 years to bring to its present state but was not perfect and probably never would be.

Nevertheless, the R.I.B.A. Form of Contract was one which architects could, with confidence, advise their clients to sign. For builders, it meant that all contracts were on a uniform basis. In education it formed the foundation of a study of the contractual side of the industry. It was based on the principle of 'what is fair and reasonable to both parties and in accordance with the best and current practice of the trade'.

He made passing reference to other forms of contract, including that known colloquially as 'the go and do it', usable where urgent works had to be done. He also issued a warning that special conditions inserted in bills of quantities should not be at variance with the general clauses of the R.I.B.A. Form of Contract.

Discussing some aspects of the R.I.B.A. Form of Contract, he said that dates for completion were frequently inserted which were quite unrealistic. But both the client and the contractor were equally bound by the contract. If the contractor failed to complete on time, he was liable to liquidated damages. If the employer or his agent prevented the contractor completing, the employer was liable. When completion dates were inserted, architects as agents should take care that they could provide all the drawings and details to time and that sub-contractors and suppliers were also nominated in good time. This was most important with firm price contracts.

On granting extensions of time, Mr. Close said that there were two apparently conflicting legal decisions on whether an architect could grant an extension after the end of the contract. But he pointed out that an architect could not grant such an extension in order to defeat a contractor's claim for damages. Likewise, he could not refuse an extension where a contractor was entitled to it so as to give a client a claim for damages. The contractor should get an extension before the date had passed or lodge a claim for one in good time and, if he did not get it, give notice of arbitration.

In valuing variations there was often a rigidity which was not implied in the contract. These were sometimes priced at figures which were given in the bills of quantities although changed circumstances had made those prices inapplicable. The words in the contract 'unless previously or otherwise agreed' had been inserted in the R.I.B.A. Form of Contract to cover such cases.

The R.I.B.A. Form of Contract was a very fine bridge between the component sections of the building industry which they themselves had built. It had taken a long time to build, was perhaps not too well constructed, was ill lit in places and it needed maintenance, but it worked and should not be tampered with.

In the discussion on Mr. Close's paper the question of bonus in addition to penalty was discussed. Mr. Close said there was no justification in law for a

bonus for completion before time. Moreover, many people thought this to be undesirable in standard contracts as it was liable to encourage bad workmanship.

Answering a suggestion that architects should provide builders with dates when sub-contractors and steel would be ready, Mr. Close said that the time and progress schedule should give such dates. Preparation of a time and progress schedule should properly be a joint affair. One builder said that his firm always produced a programme as well as a progress chart, the former including such things as dates for delivery of drawings, whereas the progress chart was for use mainly on the job.

Mr. G. Grenfell Baines [4] said the proceedings for arbitration were cumbersome and he also suggested that there might be a separately negotiated contract concerning completion time. Mr. Close said that the reason for the arbitration clause was that it was unfair to the builder to make the architect the sole arbiter. The proposal for a separate contract on completion time he described as 'pregnant with dispute'.

Mr. K. J. Speakman-Brown, F.R.I.C.S., in his paper on *Counting the Cost*, said that co-operation was a better word than integration to describe what they were trying to do at the symposium. He then discussed the meaning of the word cost. He said the cost of a building was not the tender price, but the cost of the end product to the building owner.

Factors in determining tender prices were: (1) The degree of competition at tender date. (2) The type of construction. (3) Presentation of tendering documents (he referred to 'muddled bills of quantities'). (4) Presentation of drawings (pre-planning) especially if drawings were seen by builders at the tender stage. (5) Reputation of the architect regarding buildability. (6) Reputation of the client as a person who knew or did not know his own mind. (7) Certain decisions taken before tender stage by the owner or architect regarding materials to be used, some of which might be in short supply.

Mr. Speakman-Brown then dealt with a series of individual points as follows: Low cost was not to be confused with cheapness. Cost analyses were no substitute for the services of the quantity surveyor who was the man most able to judge the attendant local circumstances.

He had found that one of the most important jobs the quantity surveyor had to do was cutting down to the architect's first casual verbal figure given to a client—the one the client always remembered. He thought it would be desirable if the quantity surveyor could be with the architect at the first interview with the client, but realised that this had difficulties.

If the builder was called in early he should be paid for any advisory services he performed. Referring to the position of the local authority treasurer or auditor, he quoted counsel's opinion to the effect that the treasurer is 'entitled to have errors of fact or arithmetic amended and there his

interference ends'. The treasurer was not a party to the contract.

If and when he went with the architect on the first visit to the client, he always tried to ask the client three questions: (1) How much do you expect to spend? (2) When do you want the building? (3) Do you want it all at once or in stages? The object of these questions was to avoid wasted effort.

He was opposed to builders being asked to state completion date in tenders because this meant that they were not tendering on uniform conditions. He thought, however, there might be a formula incorporated in the conditions whereby the finishing date could be adjusted and agreed before the contract was signed.

Coming on to factors affecting cost in the final estimate Mr. Speakman-Brown said these were: (1) Whether the design was capable of modernisation or expansion. (2) The ratio of external wall to cube or floor area (wall was relatively costly). (3) The ratio of basement to cube or floor area (basement was twice as costly as space above ground). (4) The storey heights (horizontal components were twice as costly as vertical). (5) The degree of standardising and repetition. (6) Maintenance costs, including cleaning. (7) Taxation considerations. (8) Capital or maintenance costs. (9) Site difficulties (access and working space). (10) Anything unusual in the contract. (11) Complexity of contract. (12) Sufficient time to tender.

Mr. Speakman-Brown said that variations should properly be costed as they occurred and the architect and owner informed. Retention monies could also be much less than they frequently were, large sums being often held until quite insignificant variations had been settled.

The kind of co-operation being considered at the symposium was not going to affect costs overnight. In any case it really ought to start with co-operative education of the young.

In the discussion on Mr. Speakman-Brown's paper, several builders said they were strongly in favour of drawings being issued with bills of quantities in tendering. They were particularly desirable with alteration jobs and one builder said he liked alteration drawings to be coloured. Contoured site plans were desirable in estimating excavation work. Such a set of drawings was better at the builder's elbow while he was estimating than seen in a single visit to the architect's office. One architect quoted a case where he had been informed that the issue of drawings with the tender had saved £20,000 on one of his jobs costing £250,000.

Mr. Johnson Marshall raised the question of elemental bills of quantities and Mr. Speakman-Brown quoted the R.I.C.S. report which was generally opposed to them. He thought the quantity surveyor could always take out any elemental information for the architect from the ordinary bills of quantities if he were asked to do so. Mr. G. Grenfell Baines said he got all he wanted in this direction from his own quantity surveyor.

Dr. Denis Harper [F], Professor of Building at Manchester University, said that in the school of building at Manchester University they were arranging that builders and quantity surveyors should work their first year together, and he thought that it would be desirable if this were a general practice with all sections of the industry.

Mr. F. Statham, President of the North-Western Federation of Building Trades Employers, gave a paper on *Profit by Experience*. He asked whether the industry had made any serious attempt to profit by experience. If we had, we would have asked clients to give their views on the use and maintenance of building and we would have taken operatives into our confidence. This last was an exceedingly difficult thing to do because the bitterness of the Industrial Revolution still remained and the men would have to be given confidence in the integrity of their employers.

He thought that quite insufficient consideration was given to the processes by which a building was to be erected when the design and drawings were being prepared. He also thought it would be a good thing to have an inquest after a job was finished so that all concerned could discover how errors and delays could be eliminated in future. He felt it most desirable that builders should be consulted in the early stages of a job because they had a lot to offer.

On various items of tendering and contract administration, he said he felt that architects should insist with their clients that tenders should be sought from firms of equal standing. He would also like to see the quantity surveyor with a more independent status; at present he gave greater protection to the client than to the builder.

Mr. Statham drew attention to the high rate of accidents in the industry. If we were 'one industry' this was a matter which should not be ignored by the architect and the quantity surveyor; they should specify and itemise safety precautions and avoid using or indicate risks such as with fragile roofing materials.

The building industry was one of the few in which no attempt had been made to plan total production. We were at the mercy of trade cycles, both national and regional, and no one from architect to operative could know what conditions would be like six months or a year ahead. He asked how we could help ourselves in this.

Building costs, he said, must come down. If they did not the industry was going to be in a bad way. Two ways of doing this were to make use of the total available capital by cutting down retention money and by speeding building operations.

On the educational side, he asked how far the industry had failed to profit by experience. Little attempt seemed to be made to pass on the experience of the older men to the younger. Study groups of students were all very well but the speakers rarely had enough experience to make such study groups worth while. He

asked whether post-graduate training was not a partial answer to this problem of passing on experience.

He thought that the industry generally had made no serious attempt to profit by the experience of research workers. The same mistakes were made again and again in spite of there being ample information on them in publications such as B.R.S. Digests and M.O.W. leaflets.

In the discussion on Mr. Statham's paper, Mr. Grenfell Baines said that some degree of tension between the builder and the architect was inevitable but need not be anything like so great as it frequently was. Mr. Allport Williams [F] pointed out that the mechanism for passing on information was defective in that many people had no time to read or would not read reports and articles in periodicals. Mr. D. Bullivant [4] said that there was a positive proliferation of knowledge and that some highly specialised form of skilled abstracting service was needed to make it readily available.

The discussion ended with a statement of the case for the sub-contractor. One speaker said that a sub-contractor might be waiting as long as three years for a job for which he had tendered, and he seemed rarely to have sufficient information as to when it was likely to be coming on. He himself often called at the office of an architect or builder only to be told 'in about six months' time'. While they were waiting there might be rises in wages and in the costs of raw materials. Sub-contractors had to protect themselves against this sort of thing and the result was increased cost.

At the last meeting the papers and discussions were summarised by Mr. Eric L. Bird [4], Technical Research and Education Officer of the Building Centre.

The proceedings closed with the President thanking the speakers.

I.U.A. Notes

Moscow Congress. Preparations are now well in hand for the Fifth I.U.A. Congress at Moscow. The dates of the Congress have now been fixed as 20-28 July 1958. A note on the Congress appears on page 123.

United States of America. Mr. Richard J. Neutra has been elected Honorary Member of the National Academy of San Luca of Rome, the membership of which is largely composed of the most eminent of Italian painters, sculptors and architects.

U.N.E.S.C.O. A meeting of the Liaison Committee of the International Non-governmental Organisations in the field of Arts and Letters took place in Paris at the U.N.E.S.C.O. Headquarters, 7-11 December 1957.

The I.U.A. was represented by Mrs. Helena Syrkus (Poland), M. Pierre Vago (France), Secretary-General of I.U.A., and M. Robert Lebret (France), the permanent delegate of the Union to U.N.E.S.C.O.

An account of the meeting will be available in due course.

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialised branches of research and will willingly answer inquiries.

The Director, The Building Research Station, Garston, near Watford, Herts.

Telephone: Garston 4040.

The Officer-in-charge, The Building Research Station Scottish Laboratory, Thorntonhall, near Glasgow.

Telephone: Busby 1171.

The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks.

Telephone: Princes Risborough 101.

The Director, The British Standards Institution, 2 Park Street, London, W.1.

Telephone: Mayfair 9000.

The Director, The Building Centre, 26 Store Street, London, W.C.1.

Telephone: Museum 5400 (10 lines).

The Director, The Scottish Building Centre, 425-7 Sauchiehall Street, Glasgow, C.2.

Telephone: Douglas 0372.

Glass Cladding. This is a most elaborate and colourful booklet, recently issued by Pilkington Brothers. In it is described the development of curtain walling, starting with an analogy between two fundamentally different types of animal structure—the exo-skeleton and the endo-skeleton and their architectural equivalents. The former, the exo-skeleton, is described as being skin and skeleton in one element, the latter as being skin and skeleton as separate elements. The functions of the building skin are analysed in terms of: heat, light, air, weather, moisture, sound, fire and services. Other analyses described by Mr. T. A. Markus [A], who edited the booklet, are of various forms of structure, the advantages and problems of cladding techniques and the appearance of buildings when the structure is fully revealed, partly concealed or totally concealed.

A large number of buildings are illustrated, all in colour; these include Peter Jones's store and the Daily Express offices built in the 1930's as well as many more recent examples both in this country and abroad.

To complete the booklet there are specifications for many types of glass together with fixing and glazing instructions and a colour chart for 'Armourelad', 'Muroglass' and 'Vitrolite', Munsell and British Standard references are given, as a guide to designers, where applicable. The address of Messrs. Pilkington Brothers Limited is St. Helens, Lancs.

Rigid Corrugated Aluminium Sheeting. The British Aluminium Company announce that now, for the first time in this country, they are producing corrugated aluminium roofing sheets up to 35 ft. long, instead of the 12-ft. lengths hitherto available. By special arrangement even longer sheets may be had.

For these 35-ft. long sheets the company claim the following economical advantages; the number of end and side laps in a given roof area is reduced, less material is needed and handling and fixing costs are lessened. Some may consider that the appearance of roofs clad with long sheets is improved. Despite the length of these sheets the lightness of aluminium makes them easy to handle and lining up is easier. The technical advantages are said to be that weather-

tightness is better, particularly on low-pitch roofs, as there are few end laps—or possibly none at all, and if the sheets span over more than two purlins the deflection under a given load is reduced by about half.

The address of the British Aluminium Company Ltd. is Norfolk House, St. James's Square, London, S.W.1.

Time and the Architect. Messrs. Smiths Clocks and Watches Ltd. and their associate company English Clock Systems have instituted a service for architects and designers through which all wall clocks in the Smith and English Clock Systems' range can be ordered, and indeed any other instruments in the timekeeping field, including specials. Thus this new Architects' Service Department can supply the complete range of timekeeping equipment required for factory, school or office, or if a special is wanted the department will make it to the architect's specification.

Full details of the Architects' Service Department can be had from Messrs English Clock Systems, 179-185 Great Portland Street, London, W.1.

Compactom Partitioning. Since 1919 the name Compactom has been associated with wardrobes and fitments designed to save space, but soon Messrs. Compactom, Ltd., turned their attention to lightweight prefabricated partitioning, with such success that for the time being they have had to cease production of Compactom furniture.

To advertise the variety and possibilities of their systems of partitioning the company have chosen not to rely on literature, photographs and lists of buildings, but to invite inspection of their new offices in Oxgate Lane, Cricklewood, London. Faced with the need for extended office accommodation the company took an existing and rather bare paint shop adjoining one of their factory buildings, and by means of their partitioning turned it into offices which are also showrooms demonstrating different kinds of partitions and ceiling treatment, and the company stress that although a measure of standardisation is employed to keep costs to a minimum their system is not based on a 'take it or leave it' principle, but each project is tailor-made to meet the client's requirements.

A wide range of materials, styles and

finishes is available to suit each scheme and partitions may be single, double, solid or glazed, and treated for sound insulation and absorption or fire resistance. Various finishes such as veneered, polished, painted, plastic-faced, etc., can be supplied already decorated or for final decoration on the site. Structural members can be in timber or aluminium, and partitions may be free-standing or fixed. Electrical services can be hidden in the main members.

The Cricklewood offices thus constitute showrooms displaying many varieties of partitioning and ceilings which may be inspected by interested persons under everyday working conditions.

Modulem Ceilings. In association with the Wakefield Company of Vermilion, Ohio, U.S.A., Messrs. Crompton Parkinson Ltd. (Crompton House, Aldwych, London, W.C.2) have evolved a luminous ceiling which is being marketed under the name Crompton Modulem. Very briefly, the system comprises 'New-line' lighting trunking from which two types of luminous ceilings may be suspended by hangers on a 3-ft. grid principle: (a) Modulem pans, or panels, of rigid arch vinyl plastic diffusers, and (b) Modulem strips of corrugated white vinyl plastic sheeting, normally arranged to run the length of the ceiling. The pans, which may be coloured, can be arranged to protrude below the supporting framework or be inserted the other way up to give a coffered effect. Owing to the 3-ft. grid principle both pans and strips can be used in the same ceiling. Spotlights, too, are installed; thus a variety of combinations can be used, and may also be altered to suit new conditions without difficulty.

Romanite W.R. An addition to the list of water repellent solutions is announced by Messrs. Andrew Maxwell; it is named Romanite W.R. and is basically prepared from selected and refined silicone resins. Its purpose is to prevent the penetration of rainwater into brickwork, stone, concrete, asbestos cement, mortar, etc. It is claimed that the effective life in the United Kingdom is up to six years. Further particulars may be obtained from the firm, whose London address is Datom House, Harrison Street, Gray's Inn Road, W.C.1. Their Liverpool address is Maxwell House, 6 St. Paul's Square, Liverpool 3.

British Standards Recently Published

B.S. 1308: 1957. Concrete Street Lighting Columns. The original 1946 edition of this Standard has been revised to include lighting columns of prestressed concrete. The specification has been drawn up in the light of the results of a series of tests whose principal object was to ensure that columns of this material offered adequate resistance to impact.

The Standard is predominantly one of quality and performance; the design of the columns being left to the discretion of the manufacturer. Price 5s.

The R.I.B.A. representative on the drafting committee was Mr. F. H. Heaven [A].

R.I.B.A. Prizes and Studentships 1958

Tite Prize: A Certificate and £100 for the Study of Italian Architecture. The subject was 'A Piazza'. Prize awarded to Mr. Ian Rose [*Student*], 37 Rampart Avenue, Glasgow, W.3 (Glasgow School of Architecture).

Soane Medallion and £120 for Architectural Study Abroad. The subject was 'A School of Architecture for Oxford University'. Prize awarded to Mr. John Samuel Smith [*Student*], 92 Belgrave Road, Wyken, Coventry, Warwickshire (School of Architecture, Leicester College of Art).

Pugin Studentship: A Silver Medal and £80 for the Study of Mediaeval Architecture of Great Britain and Ireland. Awarded to Mr. Edward Lowe Preston [*Student*], The Shrubbery, Long Lane, Blackheath, Birmingham (Birmingham School of Architecture). A Certificate of Honourable Mention was awarded to Mr. Gerald Ernest Rhodes, 11 Albert Road, Heaton Moor, Stockport, Cheshire (Manchester University, School of Architecture).

Royal Institute Silver Medal and £50 for an Essay. Awarded to Mr. Jeremy Burman Lowe, Dipl. Arch. (Northern Polytechnic), [A], 8 Tenter Terrace, Durham City, Co. Durham (Department of Architecture, The Northern Polytechnic, London).

Owen Jones Studentship: A Certificate and £250 for the improvement and cultivation of knowledge of the successful application of colour as a means of architectural expression. Not awarded.

Grissell Gold Medal and £35: For the Encouragement of the Study of Construction. Not awarded.

Andrew N. Prentice Bequest: A Certificate and £230 for the Study of Spanish Architecture. Awarded to Mr. Harold William Booton [*Student*], Myton House, Ingleby Barwick, near Stockton on Tees (School of Architecture, King's College, Newcastle upon Tyne).

Alfred Bossom Research Fellowship and £250 for Post-Graduate Research. Awarded to Mr. James Frederick Munce [A], c/o Messrs. Munce & Kennedy, 133 University Street, Belfast (Department of Architecture, The Northern Polytechnic, London).

Henry Saxon Snell Prize and Theakston Bequest: £150. (Offered jointly by the R.I.B.A. and the Architectural Association for the study of the improved design and construction of hospitals, convalescent homes and asylums for the aged and infirm poor.) Not awarded.

Hunt Bursary: £95 for the Encouragement of the Study of Housing and Town Planning. Awarded to Mr. James Cunningham [*Student*], 6 Stenton Crescent, Netherton,

Wishaw, Lanarkshire (Glasgow School of Architecture).

R.I.B.A. Athens and Delissa Joseph Bursaries: £175 for Study at the British School at Athens. Awarded to Mr. Peter Denham Smithson [A], 46 Limerston Street, Chelsea, S.W.10 (School of Architecture, The Architectural Association, London).

R.I.B.A. Rose Shipman Studentship Trust: A Certificate and £600 for the Study of Architecture. Awarded to Mr. Haydn William Smith [A], 58 Cavendish Road, Heaton Mersey, Stockport, Cheshire.

Henry L. Florence Architectural Book Scholarship: A Certificate and £200. Awarded to Mr. Denis Arthur Louis Hanford, Dip.Arch.(Nottm.), [A], c/o 129 Ringwood Road, Totton, Southampton, Hants (Nottingham School of Architecture).

Henry L. Florence Research Scholarship and £400 for Post-Graduate Research. Awarded to Mr. William Gough Howell, D.F.C., M.A.(Cantab.), A.A.Dipl. [A], 82 South Hill Park, London, N.W.3 (Cambridge University, School of Architecture and the School of Architecture, The Architectural Association, London).

Henry L. Florence Bursary: A Certificate and £400 for the Study of Greek, Hellenistic and Byzantine Architecture of the Mediterranean Basin. Awarded to Mrs. Selina Rosemary Tomlin [A], Froglands, Rotherwick, near Basingstoke, Hants (School of Architecture, The Architectural Association, London).

Rome Scholarship in Architecture, 1957. £400 per annum for two or three years' study and research at the British School at Rome. Offered by the R.I.B.A. and awarded by the Faculty of Architecture of the British School at Rome. Awarded to Mr. Roelof Sarel Uytendogaardt, B.Arch. (Cape Town) (School of Architecture, University of Cape Town, South Africa).

Ashpitel Prize 1957 and Sir Banister Fletcher Prize 1957. Awards to be announced later.

R.I.B.A. Silver Medal and £10 in Books for Students of Schools of Architecture Recognised for Exemption from the Final Examination 1957. Awarded to Mr. Frederick Clive Johnson [*Student*], 'Westwinds', 137 Lavernock Road, Penarth, Glamorgan (Welsh School of Architecture, College of Advanced Technology, Cardiff). Certificates of Honourable Mention to Mr. Ian Clement Brown [*Student*], 45 High Road, Puckeridge, Herts (School of Architecture, Kings College, Newcastle upon Tyne), and Mr. Thomas Stephen Davidson Gibson [*Student*], 46 Forest Road, Aberdeen (Aberdeen School of Architecture, Robert Gordon's Technical College, Gray's School of Art, Aberdeen).

R.I.B.A. Bronze Medal and £10 in Books for Students of Schools of Architecture Recognised for Exemption from the Intermediate Examination 1957. Awarded to Mr. George Lindsay Bruce, 8 Bellevue Road, Edinburgh, 7 (School of Architecture, Edinburgh College of Art). A Certificate of Honourable Mention to Mr. James Mason Paterson [*Student*], 'Dergachy', Port-Glasgow Road, Kilmacolm (Glasgow School of Architecture).

Archibald Dawney Scholarship Trust Prizes 1957: Three Prizes of the Value of £100 Each for the Advanced Study of Construction. Prizes awarded to Mr. George Lindsay Bruce, 8 Bellevue Road, Edinburgh, 7 (School of Architecture, Edinburgh College of Art), Mr. Thomas Henny, 104 Pilton Avenue, Edinburgh, 5 (School of Architecture, Edinburgh College of Art), and Mr. Ian Robert Turner, 'Westmorland', Radmanthwaite Road, Pleasey Hill, Mansfield, Notts (Nottingham School of Architecture).

R.I.B.A. Henry Jarvis Studentship at the School of Architecture, the Architectural Association, 1957: £50. Not awarded.

R.I.B.A. Howard Colls Travelling Studentship at the Architectural Association, 1957: £15 15s. 0d. Awarded to Mr. Jonathan Moorhouse, Jupes Hill, Dedham, near Colchester.

R.I.B.A. Donaldson Medal at the Bartlett School of Architecture, University of London, 1957. Awarded to Mr. Hans Christian Ulrik Middelfart Hellum, Carlsfostr, 8, Larvik, Norway.

R.I.B.A. Prize for Art Schools and Technical Institutions with Facilities for the Instruction of Intending Architects (£10 in Books), 1957. Awarded to Mr. Cyril Parkinson [*Student*], 5 Dooley Lane, Marple, Cheshire (School of Architecture, Regional College of Art, Manchester).

R.I.B.A. Prizes for Public and Secondary Schools. Total value of 20 Guineas. Offered for an essay of not more than 1,000 words, or for sketches or scale drawings of a building or part of a building. For competition between boys and girls in public and secondary schools. Awarded as follows: (a) **Essays.** £10 10s. to Miss Diana Lee Smith, The Atherley School, Southampton, for her essay entitled 'A New Weaving and Finishing Shed at the Wilton Royal Carpet Factory'. (b) **Sketches.** £10 10s. to Mr. Colin Florentine Jackson, The Grammar School, Whitehaven, for his drawings of Southwell Minster.

London Association of Master Stonemasons Prize: A Certificate and £50, for the Study of Natural Stonework. (1) £21 to Mr. Edward Spencer Pluck, 14 Street Lane, Roundhay, Leeds, 8 (Leeds School of Architecture and Town Planning). (2) £10 10s. to Mr. Colin Bennett, 62 Mountbatten Crescent, Coach Road, Outwood, near Wakefield (Leeds School of Architecture and Town Planning).

Practice Notes

Edited by Charles Woodward [A]

IN PARLIAMENT. Letter-Boxes (Design). Mr. Gresham Cooke asked the Postmaster-General what interest was shown by the building trade and the general public in the Post Office exhibit of larger letter-boxes at the recent building exhibition.

Mr. K. Thompson: I am glad to say that some 2,000 specific inquiries were made by architects, builders, municipal officials, and the general public. It was the universal opinion among inquirers that the larger letter-plate openings would be of great help, both to the public and the Post Office.

Mr. Gresham Cooke asked the Postmaster-General what further efforts would be made to emphasise the importance of business and professional people having commercial size letter-boxes at their residences as well as their offices; and if he would make a statement.

Mr. K. Thompson: We propose to embark upon a publicity campaign for the use of larger letter plates, at residences as well as offices, by poster, film, Press advertising and exhibition, in the spring of 1958, when it is expected that supplies of the new letter plates, conforming to the new standard, will be generally available from the manufacturers. We are also seeking the co-operation of builders, architects and local authorities. (11 December 1957.)

Rights of Light and War-Damaged Sites. The General Purposes Committee of the London County Council have recommended that a statement of evidence, as follows, be submitted to the Committee on Rights of Light set up by the Lord Chancellor to consider the law relating to rights of light in connection with war-damaged sites:

As a major owner of land in London the Council holds, pending their redevelopment, a number of war-damaged sites throughout the county and the acquisition of such sites will, of course, continue. The possibility of rights of light being acquired by adjoining owners has become very real despite steps that are taken where possible to prevent such rights being acquired in relation to sites owned by the Council. For those properties damaged during the early part of the war the period prescribed by the Prescription Act, 1832, matures in 1960.

The acquisition by the Council of rights of light by virtue of its ownership of property adjoining war-damaged sites would, fortuitously, be favourable to the Council, since some control would be possible over the development of the site; a more important consideration is, however, that of the acquisition of similar rights by owners of buildings adjoining sites which are already in the Council's ownership, or are yet to be acquired. There would be a danger that the Council's own development of these sites in the public interest might be prejudiced, or made more expensive and

probably delayed, because of compensation payable to adjoining owners. It is also probable that there would be an effect on the purchase or sale price of such sites or properties abutting them, according to where the ownership of rights of light lies.

The Council's interests as town planning authority may also be affected where, owing to the acquisition of rights of light by prescription, adjacent development is planned in a manner unacceptable to the Council. Any refusal of planning consent or the granting of conditional consent in such cases might involve the Council in liability for compensation or a purchase notice under the Town and Country Planning Act, 1947, if the applicant was denied reasonably beneficial use of his land. In all these circumstances the Council would support the promotion of legislation intended to preclude the acquisition of rights of light in circumstances in which such acquisition had been made possible because of war damage.

FIRM PRICE TENDERING. As has been stated in the JOURNAL the Council of the R.I.B.A. support the principle of firm price tendering. Where such tenders are required the position can be met by the deletion of Clause 25A in the R.I.B.A. Form of Contract.

Firm price tendering from nominated sub-contractors and nominated suppliers needs separate negotiation.

FORMS OF TENDER. VARIATIONS FROM THE WORDING OF THE R.I.B.A. FORM OF CONTRACT. It is understood there have been instances of architects stating in the form of tender that the works were to be carried out to their 'entire satisfaction'. The Practice Committee have considered this matter and decided that in such invitations to tender the wording should accord with Clause 1 of the Conditions of the R.I.B.A. Contract, i.e. that the works should be carried out and completed to the 'reasonable satisfaction' of the architect.

CLEAN AIR ACT, 1956. Corporation of London. The Corporation of London have issued a statement concerning the above Act.

According to Section 3 of the Act any person proposing, after 31 December 1956, to install a new furnace with a heating capacity in excess of 55,000 British Thermal Units per hour is required to give notice of intention to the local authority.

In the case of existing buildings in the City of London, and also in the Port of London, notices of intention should be made to the Medical Officer of Health. In the case of new buildings in the City notices should be made to the City Engineer.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY. Regular night working. As from 16 December 1957 the rates of wages for men specially engaged for and employed regularly and exclusively at night on repair, maintenance or redecoration work are the current

standard rates for craftsmen and labourers respectively with a fixed addition of 9d. per hour. This extra payment is to be taken into computation for the calculation of overtime, travelling time and guaranteed time payments.

'Regular Nightwork' means only repair, maintenance or redecoration work performed entirely at night by men specially engaged for that work and exclusively employed.

It does not mean any normal building work or operation performed by a night gang employed as such under the separate provisions of the National Working Rules.

Increase in Wages. At its Statutory Meeting in London on 9 January the National Joint Council for the Building Industry conducted its annual review of wages under the industry's cost of living sliding scale agreement. The Council found that under the agreement, which is based on the retail prices index, an increase of 1d. an hour in building craftsmen's and labourers' rates becomes due and will operate from 3 February.

The National Joint Council also considered claims from the Operatives for a 40-hour week and for an increase of 8d. an hour in standard wage rates. After hearing evidence on these claims the N.J.C. appointed a committee to consider them further.

In current contracts under the R.I.B.A. Form of Contract the 1d. increase an hour will be a net addition to the Contract Sum.

PLANNING APPEAL. Zoning land for local authority housing only. This was an appeal against the refusal of the planning authority to permit the erection of houses by the applicant on the ground that the land was zoned for local authority housing only.

The Minister allowed the appeal and noted that notwithstanding their refusal of planning permission the local planning authorities consider the land suitable for residential development. The Minister saw no objection in principle to residential development of the land and therefore no justification for withholding the outline permission sought.

As a compulsory purchase order was already before the Minister, he took the view that consideration of the order would decide whether the land should be developed by private enterprise or by the local authority. (THE ESTATES GAZETTE, 28 December 1957.)

OCCUPIERS' LIABILITY ACT, 1957. This Act received the Royal Assent on 6 June 1957 and came into operation on 1 January 1958.

The Act makes amendments to the common law relating to the duty owed by the occupier of premises to persons who enter the premises under a contract, by invitation or with permission or who may be trespassers.

The Act would seem to apply to a building contract where the occupier knows that the contractor's employees will enter the premises to do the work. The employees

would be third parties and the occupier would owe to them the common duty of care. Whether any distinction can be made between the case where a contractor is in sole possession of the site for the purposes of the contract and the case where alterations are being made to premises the owner being still in occupation is no doubt a point for legal advice.

The Act is being analysed in the JOURNAL OF PLANNING AND PROPERTY LAW, the first article appearing in the January issue of that Journal. There is also an article in THE ESTATES GAZETTE of 11 January which explains the provisions of the Act in detail. The Act is of importance to occupiers of premises and would seem to be important in relation to a building contract.

ANCIENT MONUMENTS AND HISTORIC BUILDINGS IN WALES. From 1 April the responsibilities of the Ministry of Works for ancient monuments and historic buildings in Wales will be transferred from the Ministry's headquarters in London to the Ministry's Central Office for Wales under its Director (Mr. G. G. Walters, C.B.E.) in Cardiff.

The Ministry's Inspector of Ancient Monuments for Wales, Mr. O. E. Craster, T.D., M.A., F.S.A., and the architect dealing with ancient monuments and historic buildings in Wales, Mr. L. Monroe, F.S.A. [4], with their staffs, will be transferred from London to Cardiff.

LAW CASE

Dunlop and Ranken, Ltd. v. Hendall Steel Structures, Ltd. Clause 21. R.I.B.A. Form of Contract. This case raised the point as to whether a nominated sub-contractor can claim payment from the main contractor for work done under the sub-contract which has not been included in a certificate of the architect.

The Court found that under the payment clause in the R.I.B.A. Contract there was nothing due, as between the building owner and the main contractor, until the contractor had a certificate. The question was whether the same principle applied between the contractor and the nominated sub-contractor. Clause 21 assumes that that will be the case, but the clause contemplates a written sub-contract between contractor and nominated sub-contractor.

In this case the contractors had merely sent the nominated sub-contractors an order form and the Court felt some doubt as to whether the conditions included in the order form were in themselves sufficient to incorporate the condition with regard to payment which appears in Clause 21 of the R.I.B.A. Contract between the building owner and the contractors. The Court decided that the words in the order 'payment in accordance with the certificates' really meant 'payment if and when a certificate is given' and if this were the true construction there was no debt owing as the sum claimed had not been included in a certificate issued by the architect as between the building owner and the main contractors. (*All England Law Reports*, 1957, Vol. 3, page 344.)

Notes and Notices

NOTICES

Fifth General Meeting, Tuesday 4 March 1958, at 6 p.m. The Fifth General Meeting of the Session 1957-58 will be held on Tuesday 4 March 1958 at 6 p.m., for the following purposes:

To read the Minutes of the Fourth General Meeting held on 4 February 1958: formally to admit new members attending for the first time since their election.

Sir John Wolfenden, C.B.E., to read a paper on 'The Architect's Role in Society'.

(Light refreshments will be provided before the meeting.)

Session 1957-58. Minutes III. At the Third General Meeting of the Session 1957-58 held on Tuesday 7 January 1958 at 6 p.m.

Mr. Kenneth M. B. Cross, M.A., President, in the Chair.

The meeting was attended by about 130 members and guests.

The Minutes of the Second General Meeting held on 10 December 1957 were taken as read, confirmed and signed as correct.

The following members attending for the first time since their election were formally admitted by the President: *As Fellows*: C. K.

Capon, P. L. Cocke, M. H. Cooke-Yarborough, A. W. Cox, J. R. F. Daviel, L. M. De Syllas, J. M. Grice, D. A. Tyndall. *As Associates*: H. L. H. Chadwick, Z. J. Nowak, Miss E. M. Prior.

The Secretary read the Deed of Award of Prizes and Studentships made by the Council under the Common Seal.

A discussion on 'Architecture and the Other Arts', under the Chairmanship of Professor J. M. Richards [4], followed. Among the speakers were Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., Hon. Secretary, Mr. Reg Butler [4], Mr. Stephen Bone and Mr. Basil Taylor.

The proceedings closed at 7.55 p.m.

R.I.B.A. Telephone Number. The R.I.B.A. telephone number will be changed, *as from the end of February 1958*, to LAngham 5533.

British Architects' Conference 1958. The British Architects' Conference 1958 will be held at Newcastle upon Tyne from 14 to 17 May at the invitation of the Northern Architectural Association. Full details of the programme will be published with the March issue of the JOURNAL. Particulars of accommodation in hotels is given below.

BRITISH ARCHITECTS' CONFERENCE, NEWCASTLE UPON TYNE, 14-17 May 1958

List of Hotels

The local Conference Committee have made provisional reservations at the following hotels, which will hold good until 28 February 1958. Members wishing to reserve accommodation for the Conference should write direct to the hotel of their choice, *making particular mention of the British Architects' Conference.*

Hotel	Rooms		Charge Bed and Breakfast	Garage
	Double	Single		
*Cairn Hotel Osborne Road, Newcastle upon Tyne, 2	4	10	22/-	—
County Hotel Newcastle upon Tyne, 1	12	6	37/6	Yes—200 yards away
Crown Hotel Clayton Street West, Newcastle upon Tyne, 1	20	20	27/6	Yes—200 yards away, and parking
Douglas Hotel, Newcastle upon Tyne, 1	8	10	30/-	Yes—200 yards away
*Gordon Hotel, Clayton Road, Newcastle upon Tyne 1	12	3	30/-	Parking
Imperial Hotel, Jesmond Road, Newcastle upon Tyne, 2	12	6	26/6	Yes
Royal Station Hotel, Newcastle upon Tyne, 1	80	30	41/-	Yes—200 yards away and parking for 12 cars
Royal Turk's Head Hotel Grey Street, Newcastle upon Tyne, 1	40	20	37/6	Limited parking
Tynemouth (10 miles from Newcastle)				
Grand Hotel, Tynemouth (overlooking sea)	12	—	30/-	Parking
Whitley Bay (10 miles from Newcastle)				
Rex Hotel, Whitley Bay Promenade	20	10	25/-	Yes, and parking
Esplanade Hotel, Whitley Bay Promenade	20	—	25/-	Yes (for 3 cars) and parking (for 6 cars)
Durham (16 miles from Newcastle)				
Three Tuns Hotel, Durham	9	1	30/-	Parking
Royal County Hotel, Durham	28	12	30/-	Yes

* Hotels marked with an asterisk are unlicensed. All the others are licensed.

Annual Subscriptions and Contributions. Members' subscriptions and Students' contributions for 1958 became due on 1 January.

	£	s.	d.
Fellows	10	10	0
Associates	6	6	0
Licentiate	6	6	0
Students	2	2	0

For members resident in the trans-oceanic Dominions who are members of Allied Societies in those Dominions, and for members resident overseas in areas where no Allied Society is available, the amounts are as follows:

	£	s.	d.
Fellows	6	6	0
Associates	4	14	6
Licentiate	4	14	6

Formal Admission of New Members at General Meetings. New members will be asked to notify the Secretary, R.I.B.A., beforehand of the date of the General Meeting at which they desire to be introduced and a printed postcard will be sent to each newly elected member for this purpose. On arrival at the R.I.B.A. on the evening of the General Meeting new members must notify the office of their presence and will then take their places in the seats specially numbered and reserved for their use. On being asked to present themselves for formal admission, the new members will file out in turn into the left-hand aisle and after shaking hands with the President (or Chairman) will return to their seats by way of the centre aisle.

Formal admission will take place at all remaining Ordinary General Meetings of the present Session, with the exception of the following: 15 April, Presentation of the Royal Gold Medal.

The R.I.B.A. Appointments Department. Members and Students of the R.I.B.A. and the Allied and Associated Societies are reminded that the services of the Institute's Appointments Department are available to employers requiring assistants and to assistants seeking salaried employment.

Employers are invited to notify the Secretary of vacancies in their offices, giving details of the work to be done, the qualifications required and salaries offered.

Assistants should preferably call at the offices of the Appointments Department, but if this is not practicable they should obtain from the Secretary an application form, which when completed and returned to the Institute will enable the Department either to send the applicants particulars of vacancies suitable to their qualifications and requirements or submit their names for vacant posts.

Members and Students seeking official appointments should note that normally these are fully advertised in the weekly professional press, and that therefore the Appointments Department do not as a rule notify them to those on the register.

The Institute will also be glad to advise on most matters concerning architectural employment, including overseas appointments.

Cessation of Membership. Under the provisions of Bye-law 21 the following have ceased to be members of the Royal Institute: as *Associate*: H. Reginald Parkin; as *Licentiate*: Matthew Cormie.

COMPETITIONS

Reinforced Concrete Factory Building. Last date for submitting designs: 1 April 1958.

Full particulars were published in the JOURNAL for December, page 69.

International Competitions

Competition for a Monument to Jose Battle y Ordonez and Competition for a Monument to General Rivera. Notice has been received from the Secretary-General of the International Union of Architects of international competitions for the design of monuments in honour of Jose Battle y Ordonez and General Rivera.

The conditions for these competitions do not conform to the I.U.A. Regulations for International Competitions in Architecture and Town Planning approved by U.N.E.S.C.O.

Members and Students are accordingly warned not to take part in either of these competitions.

The conditions of the following competition have been approved by the International Union of Architects:

City Hall and Square for Toronto, Canada. Some particulars were published in the JOURNAL for October, page 511, and additional information in the JOURNAL for November, page 31.

Last date for dispatch of submissions in the preliminary competition: 28 March 1958.

Last date for dispatch of submissions in the final competition: 29 August 1958.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Intermediate Examination, November 1957. The R.I.B.A. Intermediate Examination was held in London, Plymouth, Manchester, Leeds, Newcastle, Edinburgh and Belfast from 8 to 14 November 1957.

Of the 384 candidates examined, 141 passed and 243 were relegated.

The successful candidates are as follows:—

Abbott: J. M.	Denman: A. J. G.
Adams: Bryan	Dixon: Geoffrey
Ayers: J. H.	Douglas: J. C.
Baker: A. J.	Dunstan: C. D.
Bamber: Robert	Dyson: W. J.
Barnes: G. C.	Elliott: R. J. A.
Bates: C. J.	Evans: I. D.
Bell: N. D.	Faraday: D. N.
Bentham: Neil	Farrant: G. J. R.
Berry: V. N.	Faulkner: J. L.
Birtwistle: Ronald	Foster-Turner: J. S.
Blades: S. J.	Gard: Bryan
Blakeley: M. H.	Gawnie: R. S.
Boulton: M. J.	Gibbs: Kenneth
Brewster: David	Gilmour: W. M.
Brittain: R. S.	Glover: C. W.
Brown: C. P. M.	Goulton: Christopher
Brown: D. R.	Govey: R. M.
Brown: Kenneth	Grant: W. E.
Bruce: J. F.	Greeves: K. J.
Bryan: C. D.	Hadden: A. L.
Bullock: Anthony	Hannon: M. E.
Caley: A. H.	Hardcastle: J. B.
Carr: Raymond	Heaslip: T. B. W.
Chamberlain: L. V.	Heathcote: D. S.
Charlton: W. E.	Hickling: J. B.
Cheung: Sing-Hoi	Hirst: Colin
Clark: Alexander	Hornie: D. M.
Cockburn: Miss E. M.	Hunt: W. K.
Collins: D. W.	Irvine: G. T.
Cook: P. F. C.	Jackson: Miss V. J. W.
Coope: S. J.	Jenkins: C. F.
Copsey: H. E.	Johnson: B. W.
Corbett: H. D. G.	Jones: Ivor J.
Crowther: G. M.	Kent: C. D.
Cursham: Hugh	Kinnes: J. B.
Curtis: G. H.	Knight: Miss M. E.
Cuthbert: David	Lambert: Stanley
Davis: M. E. W.	Lowden: Bryan
Deayton: B. J.	Lowe: Gerald

McCook: R. A.
McKee: C. W.
McKee: S. I. D.
McLean: J. M.
Mansbridge: D. W.
Marchant: Brian
Marlton: M. L.
Martin: J. P.
Metcalfe: J. B.
Miller: Edward
Mingo: M. J.
Murfin: Keith
Nesbitt: David
O'Donnell: Desmond
Olley: J. F.
Pank: J. R.
Pardon: E. C.
Peacock: A. E.
Pearson: R. K.
Pepper: M. W.
Pinder: F. K.
Pond: C. R.
Powley: M. J.
Randall: J. C.
Reynolds: G. J. D.
Richardson: J. M.
Rogers: R. N.
Salloway: G. F.
Sandford: M. J. V.
Sayer: D. W.
Sharman: Miss E. E.

Shorrocks: C. G.
Simpson: Douglas
Simpson: Norman
Sims: J. G.
Slade: Sidney
Smith: H. F.
Smith: Mrs. M. G.
Stewart: D. H.
Stewart: D. T.
Swainson: John
Taylor: C. P. G.
Thomas: I. G.
Threadgold: G. F.
Tomsett: L. J.
Tucker: R. E.
Turner: T. F. B.
Udrill: M. A.
Virdi: G. S.
Wade: B. C.
Walton: Gordon
Ward: John
Warden: J. W.
Webb: A. N.
Wheeler: G. E.
Whiteside: P. M.
Winter: J. A.
Wise: P. J.
Wood: D. M.
Woods: D. R.
Wright: D. A.

R.I.B.A. Examinations. Copies of the R.I.B.A. Final Examination Problems in Design, valid until 31 December 1960, may be obtained upon application to the Secretary, R.I.B.A.

Revised Syllabuses for the R.I.B.A. Intermediate, Final and Special Final Examinations. Copies of the revised list of books recommended for study in connection with the new syllabuses are now available.

Copies may be obtained free on application to the Secretary, R.I.B.A.

ALLIED SOCIETIES

Changes of Officers and Addresses

Hampshire and Isle of Wight Architectural Association, Western Chapter. Hon. Secretary, Mr. C. H. Fowler [A], 6 Bedford Crescent, Iford, Bournemouth.

Manchester Society of Architects. Change of address of the Hon. Secretary, Mr. Eric S. Benson, M.B.E. [F], to 180 Oxford Road, Manchester 13.

Saskatchewan Association of Architects. Annual Meeting. The Association's annual meeting was held in the Hotel Saskatchewan, Regina, on 24 and 25 November 1957. The Association now has a membership of 47, 42 of whom were present.

Among the general business conducted, plans were made for a semi-annual meeting to be held in May 1958 for the purpose of approving the rough draft of the Association's two new handbooks, one of which contains the professional bye-laws and copy of the Architects' Act together with a revised fee schedule, and the other is to be a strictly public relations book for circulation to clients and to the general public at architectural exhibitions.

A display of models, photographs and drawings of works from Saskatchewan architectural offices was on show during the convention and was the first of its kind to be exhibited in the area. It is planned to arrange similar exhibitions in conjunction with future annual meetings. The convention closed with a banquet and dance.

West Yorkshire Society of Architects. Annual Dinner and Dance. The Society's annual dinner and dance was held at the Queens Hotel, Leeds, on Friday 6 December 1957. The President, Mr. Norman H. Fowler [F], was in the chair and among the guests were Mr. H. Conolly, C.B.E., Vice-President R.I.B.A., and Mrs. Conolly; Mr. J. C. Bidgood, M.P., and Mrs. Bidgood; Alderman Joseph Hiley, J.P., Lord Mayor of Leeds, and Mrs. Hiley; Mr. L. W. M. Alexander [A], President of the Liverpool Architectural Society, and Mrs. Alexander; Mr. H. B. S. Gibbs [F], President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors; Mr. C. Leckenby [F], President of the York and East Yorkshire Architectural Society, and Mrs. Leckenby; Mr. D. McIntyre [F], President of the Northern Architectural Association, and Mrs. McIntyre; and Mr. W. R. F. Ellis, O.B.E., Deputy Secretary, R.I.B.A., and Mrs. Ellis.

Mr. Bidgood proposed the toast of the R.I.B.A., coupled with the West Yorkshire Society of Architects, and Mr. Conolly replied, and the toast of Our Guests was proposed by Mr. Fowler, to which Alderman Hiley responded.

GENERAL NOTES

Annual Dinner of the County Architects' Society and City and Borough Architects' Society. The Societies' annual dinner was held at the Tallow Chandlers Hall, London, E.C.4, on Wednesday 4 December 1957. Mr. A. G. Sheppard Fidler, R.I.B.A. Dist. T.P., A.M.T.P.I. [F], President of the City and Borough Architects' Society, was in the chair, and among the guests were Mr. Kenneth Cross, President, R.I.B.A., accompanied by the Secretary, Mr. C. D. Spragg, C.B.E., Alderman J. W. F. Hill, C.B.E., Chairman of the General Purposes Committee of the Association of Municipal Corporations, and Mr. W. L. Dacey, Secretary of the County Councils Association.

Mr. Sheppard Fidler proposed the toast of The Local Government Associations, to which Alderman Hill and Mr. Dacey replied, while Mr. Cross responded to the toast of The R.I.B.A. and Guests proposed by Mr. F. R. Steele, R.I.B.A. Dist. T.P., F.R.I.C.S., M.T.P.I. [F], President of the County Architects' Society.

Lethaby Lectures, 1958. Dr. Steen Eiler Rasmussen [H.C.M., Denmark], has been appointed Lethaby Professor of Architecture at the Royal College of Art for 1958. He will give a series of five lectures under the title 'Experiencing Architecture' at the R.I.B.A.

Details of the lectures which will be held at 5 p.m. are as follows: Monday 24 February 'Basic Observations', Monday 3 March 'Proportion and Scale', Wednesday 12 March 'Rhythm in Architecture', Monday 17 March 'Daylighting and Architecture', and Monday, 24 March 'Colour in Architecture'.

Admission is by invitation; inquiries should be addressed to the Registrar, Royal College of Art, South Kensington, London, S.W.7.

University of London Lectures. A course of two lectures on 'The Beginnings of an early Victorian London Suburb' will be given by Mr. John Summerson, C.B.E., F.B.A., F.S.A. [A], at the London School of Economics and Political Science, Houghton Street, Aldwych, London, W.C.2, at 5 p.m. on Thursday 20 and 27 February. Admission is free and without ticket.

The Career of Landscape Architecture. University of Liverpool Exhibition. This exhibition will

Notes from the Minutes of the Council

MEETING HELD 7 JANUARY 1958

The Royal Gold Medal, 1958. The Secretary reported that H.M. The Queen had been pleased to approve the recommendation of the Council that the Royal Gold Medal for the Promotion of Architecture in the Year 1958 be awarded to Robert Schofield Morris, F.R.A.I.C. [F], Past President of the Royal Architectural Institute of Canada.

New Year Honours. The congratulations of the Council were sent to the members and others on whom H.M. The Queen had conferred honours in the New Year list.

Appointment of R.I.B.A. Representatives

(a) *R.I.B.A. Architecture Bronze Medal: Devon and Cornwall Society of Architects: Jury to consider Award for Four-year period ending 31 December 1957.* Oswald S. Brakspear [A], President, Wilts and Dorset Society of Architects.

(b) *Codes of Practice and B.S.I. Committees.* (i) *Hospital Equipment Standards Advisory Committee.* John Harris [A]. (ii) *Illumination Industry Standards Committee.* O. C. F. Carey [A].

Institution of Structural Engineers: 50th Anniversary: Conference, London, 7-10 October 1958. The Royal Institute has been invited to appoint a delegate to attend the Fiftieth Anniversary Conference of the Institution of Structural Engineers to be held in London from 7 to 10 October 1958. The theme of the Conference will be 'The Future of Structural Engineering'.

It was agreed that the Institute should be represented at the Conference at Presidential level.

Christmas Holiday Lectures for Young People. The President referred to the Christmas Holiday Lectures given by Mr. Gontran Goulden [A] which had been attended by large audiences of young people who had shown their keen interest. On his proposition a hearty vote of thanks was passed in favour of Mr. Goulden.

Thermal Insulation of Domestic Buildings. It was reported that Mr. C. C. Handiside [A] had represented the Institute at a Conference to discuss a draft Bill on Thermal Insulation of Domestic Buildings, convened by Mr. G. Nabarro, M.P.

The Council approved of the Science Committee considering the matter and receiving Mr. Handiside's report.

Thermal Insulation of Industrial Buildings. The Council approved recommendations of the Science Committee that the Minister of Power should be invited to consult the R.I.B.A. when

considering regulations to implement the recent Act.

They also approved of Mr. A. L. Hall [F] acting as the R.I.B.A. representative on an Advisory Committee in connection with a Conference to be held on the Thermal Insulation of Factory Buildings at the Sixth Factory Equipment Exhibition.

Survey of British Standards and Codes of Practice. A report from the Codes and Standards Committee surveying the whole of the R.I.B.A. work in connection with British Standards and Codes of Practice was considered, and approval was given to a number of proposals designed to achieve closer co-ordination between representatives of the Institute serving on British Standards and Codes of Practice Committees and to strengthen the Institute's influence in deliberations on these Committees.

Membership. The following members were elected: as Honorary Associate 1; as Fellows 6; as Associates 39.

Students. 35 Probationers were elected as Students.

Applications for Election. Applications for election were approved as follows: *Election 4 March 1958:* as Fellows 7; as Associates 252. *Election 6 May 1958 (Overseas Candidates):* as Fellows 5; as Associates 7.

Applications for Reinstatement. The following applications were approved: as Associates: Sidney Constantin Halbritter, Eric Moore Marrett.

Resignations. The following resignations were accepted with regret: Mrs. Patricia Ann Druitt Galley [A], William Robert Williams [A].

Applications for Transfer to Retired Members' Class under Bye-law 15. The following applications were approved: as Retired Fellows: Arthur Purcell Lay, Raymond Synnot. As Retired Licentiate: Hubert Frank Trobridge.

Obituary. The Secretary reported with regret the death of the following members: Janardan Ganesh Patki [F], Geoffrey William Ridley, O.B.E. [F], William Herbert Scott [Retd. F], James Richardson White [Retd. F], John Josephus Hackett [Retired Member of the Society of Architects], Alan Tatlow [A], Francis Clifton Williams [A], Ian Caldwell [L], Legender William Myers [L], Lancelot Arkwright Cooper [Retd. L].

By resolution of the Council the sympathy and condolences of the Royal Institute have been conveyed to their relatives.

be on display at the Department of Civic Design, University of Liverpool, 10 a.m. to 5 p.m. daily, from 10-21 February.

Under the patronage of the Institute of Landscape Architects, the exhibition is designed to introduce and illustrate the subject, its scope and the attendant problems of land use, and to show the work of students at those universities which now offer courses in landscape architecture.

It is also intended to display at the same time representative work in civic design executed by the graduate students of the University's own Department.

The Polytechnic School of Architecture. Course of lecture-discussions. The School of Architecture of The Polytechnic, in collaboration with the ARCHITECTS' JOURNAL, offers a special course of six lecture-discussions on the engineering aspects of building structure from the point of view of the architect and the engineer. A similar collaboration last year on cost control resulted in a demand greatly in excess of the places offered. The course commences on 24 February in the Portland Hall of the School of Architecture. Syllabuses may be obtained on application to the Registrar, 309 Regent Street, London, W.1.

Membership Lists

In the list of candidates for election as Associates on 4 February, which was published in the JOURNAL for January, the name of the school at which Mr. Norman C. Mack passed a recognised course was omitted. Mr. Mack qualified at the Glasgow School of Architecture.

ELECTION: 7 JANUARY 1958

The following candidates for membership were elected on 7 January 1958.

AS HON. ASSOCIATE (1)

Sharp: Dame Evelyn Adelaide, D.B.E.

AS FELLOWS (6)

Birchett: Denis Arthur [A 1951], Brentwood.
 Godfrey-Gilbert: Jack [A 1941].
 Larkin: George Ismay, T.D. [A 1938], Derby.
 Lingard: Brian Hallwood [A 1950], Bangor.
 Rowe: James Stewart [A 1950], Birmingham.
 Wallace: MacLeod Somerville [A 1948], Chichester.

AS ASSOCIATES (39)

Allen: Anthony Gerald, Dip.Arch.(The Polytechnic).
 Baker: Gordon Ernest, Dip.Arch.(The Polytechnic).
 Bayley: Donald Felix, Dip.Arch.(The Polytechnic).
 Bolton: Gerald Victor, Strood.
 Bottell: Peter James, Dipl.Arch.(Northern Polytechnic).
 Burder: David, A.A.Dipl., Wadhurst.
 Burrell: Edward Michael, A.A.Dipl.
 Campbell: Kenneth Herbert, Dip.Arch.(Birm.).
 Coxon: John Dudley, Dip.Arch.(Dunelm), Shotley Bridge.
 Crampin: Anthony Alston, A.A.Dipl.
 Davidson: John Beattie, Dip.Arch.(Abdn.), Lockerbie.
 Elliott: Eric Ian Victor, D.A.(Edin.), Belfast.
 Gavin: James Norman, Dip.Arch.(The Polytechnic).
 Griffiths: Kingsley Charles, Dipl.Arch.(Northern Polytechnic), Luton.
 Hartley: Bernard Maitland.
 Hill: John Arthur, Bedford.
 Iffie: David Ian, B.A.(Cantab.), A.A.Dipl., Liverpool.
 Lee: David Alexander, Dipl.Arch.(Northern Polytechnic).
 Lee: Trevor Farran, A.A.Dipl., Winchester.
 McLean: Alexander Hall, D.A.(Edin.), Edinburgh.
 Millard: Royston Ernest, A.A.Dipl.
 Miller: John MacLaurin, Dipl.Arch.(Northern Polytechnic), St. Albans.
 Murphy: Stuart John, Dip.Arch.(The Polytechnic).
 O'Muireadhaigh: Padraig, B.Arch.(N.U.I. Dublin), Derry.
 Pressley: Charles William, Dip.Arch.(Abdn.), Aberdeen.
 Quick: Richard Dennis, A.A.Dipl., Guildford.
 Rudenski: Adam Maria, A.A.Dipl.
 Skilton: Alan John, Dipl.Arch.(Northern Polytechnic).
 Smith: Dale Edward Hart.
 Smith: Ian Maurice, Dip.Arch.(Dunelm), Seaham.
 Stollard: Derek Arthur, A.A.Dipl.
 Taylor: Angus McDonald, Dip.Arch.(Abdn.), Aberdeen.
 Tierney: Graham, Dipl.Arch.(Northern Polytechnic).
 Toovey: John Wotton, A.A.Dipl., Godalming.
 Trafford: Norman David, Dip. Arch.(Dunelm), Leek.

Watson: Alan Norman, Dip.Arch.(The Polytechnic).
 Wheeler: Maurice Samuel Harrall, Dartford.
 Whitehead: (Mrs.) Margery Carol.
 Wrighton: Howard Lacey, Dipl.Arch.(Northern Polytechnic), Guildford.

ELECTION: 4 MARCH 1958

An election of candidates for membership will take place on 4 March 1958. The names and addresses of the candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Monday 17 February 1958.

The names following the applicant's address are those of his proposers.

AS FELLOWS (7)

Blackmore: John Wilfrid, A.A.Dipl. [A 1949], St. Mary's Chambers, Lowgate, Hull; 97 Kingsgate, Bridlington. H. D. Priestman, A.C. Blackmore, F. J. Horth.
 Caldwell: James Edwin Lees, A.M.T.P.I. [A 1942], 33 Clarendon Road, Watford, Herts; Mahogany Hall, Chipperfield, Herts. D. A. Wilkie, Dr. Charles Holden, C. H. Aslin.
 Cusdin: Sidney Edward Thomas, O.B.E., A.A.Dipl. [A 1930], 53, Bedford Square, W.C.1; 388, Russell Court, Woburn Place, W.C.1. J. M. Easton, Sir Howard Robertson, G. R. Dawbarn.
 Guise: John Bernard [A 1947], 7 Buckingham Gate, S.W.1; 'Mooring', Ashley Park Avenue, Walton-on-Thames. H. P. Hing, A. T. Edwards, R. M. E. Carey.
 Morrison: Samuel, T.D. [A 1948], Messrs. Morrison and Partners, St. Alkmund's House, 103 Belper Road, Derby; Highfield, Hulland Ward, Derbyshire. C. H. Aslin, F. H. Crossley, C. St. C. Oakes.
 Smith: Frederick William Beresford, A.M.T.P.I. [A 1938], 2, Prince's Buildings, Bath; 'Harmony House', Bannerdown, nr. Bath. T. W. Snailum, J. R. Edwards, E. H. Button.
 and the following Licentiate who is qualified under Section IV, Clause 4(c)(ii) of the Supplemental Charter of 1925:—
 Tuttle: Alfred Ernest Victor, 10 King's Terrace, Southsea; 'Louvain', Castle Road, Rowlands Castle, Hants. V. G. Cogswell, A. C. Townsend, P. McG. Corsar.
 AS ASSOCIATES (252)
 The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.
 Alston: Herbert Knowles, (Special Final), 244 Deepdale Road, Preston, Lancs. G. N. Hill, R. A. Williams, G. S. Pester.
 Amos: Brian Edward, (Final), 'Highlands', Stanville Road, Cumnor Hill, Oxford. Reginald Cave, David Beecher, Thomas Rayson.
 Andrews: Peter, (Special Final), 68 Holme Church Lane, Beverley, E. Yorks. H. Andrew, F. J. Horth, G. A. Crockett.
 Babister: Bernard Albert William, (Final), 124 Queens Walk, Ruislip, Middlesex. Carl Fisher, E. C. Scherrer, R. M. Piggott.
 Bain: Andrew, (Special Final), 24 Stringers Avenue, Jacob's Well, Guildford, Surrey. Jack Howe, R. D. Scott, Eric Lyons.
 Bainton: Peter Burton, (Leeds Sch. of Arch.), 12 Ash Grove, Leeds, 6. F. Chippindale, D. A. Fowler, Kenneth Turner.
 Baker: Geoffrey Cassteels, (Final), Rumbolds Hill, Midhurst, Sussex. S. H. J. Roth, F. R.

Steele and applying for nomination by the Council under Bye-law 3(d).

Barnes: John Frederick Laurence, (Final), 194 Lord Street, Redcar, Yorks. Arthur Korn, Paul Nightingale, Dr. R. Herz.

Barry: James, (Final), 25 Lake Lawn, Well Road, Douglas, Cork. J. J. Robinson, P. J. Munden, Wilfrid Cantwell.

Bath: James Arnold, (Final), 1 Albert Terrace Mews, N.W.1. T. H. B. Burrough. Hubert Bennett, Edwin Williams.

Baxter: Walter John, (Special Final), 48 Eddy Close, Romford, Essex. A. J. Norcliffe, H. K. Ablett, Charles Sykes.

Bedford: Alan Cedric, (Final), 58, High Street, Great Missenden, Bucks. S. A. Farmer, R. R. Grant, C. D. Andrews.

Bellamy: Thomas Arthur, (Final), 4 Haywood Rise, Orpington, Kent. James Melvin, E. A. S. Houfe, R. M. V. Messenger.

Bennett: Wilfred, Dip.Arch.(Manchester) (Victoria Univ., Manchester: Sch. of Arch.), 6 Meadway, High Lane, nr. Stockport, Cheshire. Prof. R. A. Cordingley, Dr. W. A. Singleton, E. S. Benson.

Bentley: Joe, (Final), 11A Highmoor Lane, Cleckheaton, Yorks. W. C. Brown, N. H. Fowler, G. Davy.

Bharucha: Bejan Ardeshir, (Final), 119, Tachbrook Street, S.W.1. Prof. S. S. Reuben, G. B. Mhatre, H. N. Dallas.

Bhonsule: Narayan Anant, (Final), 23 Cavendish Road, Balham, S.W.12. Applying for nomination by the Council under Bye-law 3(d).

Bird: Paul Bernard, (Special Final), 41 Leete Road, Cherry Hinton, Cambridge. H. C. Hughes, David Roberts, Peter Bicknell.

Blake: Charles Hilary, (Final), 40 Great North Road, Highgate, N.6. Frankland Dark, Edward Narracott, J. S. Walkden.

Blythe: Alan Cecil, (Special Final), 52 Trafalgar Square, Scarborough, Yorks. Applying for nomination by the Council under Bye-law 3(d).

Bone: Alan Francis, (Final), 'Lynn', 10 Mallory Road, Hove, 4, Sussex. R. R. Wilkins, K. E. Black, W. J. Thrasher.

Bottomley: Keith, (Final), 5, Bowwood Drive, Sandbeds, Keighley, Yorks. W. C. Brown, Eric Morley, R. M. McNaught.

Bradbury: Francis William, (Birmingham Sch. of Arch.), 168 Foxlydiate Crescent, Redditch, Worcestershire. A. Douglas Jones, Seymour Harris, R. L. Stone.

Bradford: Stanley Wilbert, (Special Final), 320 Walstead Road, Walsall, Staffs. A. L. Hall, H. W. Weedon, R. G. Madeley.

Bradley: John Ralph, (Final), 62 Rochester Street, Bradford, 3, Yorks. W. C. Brown, N. H. Fowler, G. Davy.

Braim: Eric Lawrence, (Final), 38, Highfield Road, Wheatley, Doncaster. H. A. Hickson, A. W. Glover, Hubert Bennett.

Bray: Alan Kenneth, (Final), 13 Wensley Avenue, Cottingham Road, Hull, Yorks. Allanson Hick, J. P. Taylor, H. D. Priestman.

Briggs: Harry Gordon, (Special Final), 22 Hillside Avenue, Grotton, nr. Oldham, Lancs. Frederick Thorpe, Harold Bowman, Ernest Simister.

Brooks: Michael Anthony, (Final), 146, Orange Hill Road, Edgware, Middlesex. H. A. Metayers, A. Ball, J. S. Walkden.

Bryan: Percival Charles Rex, (Special Final), Flat 2, Newnham House, Newnham Road, Northampton. J. L. Womersley, Walter Rosser, A. N. Harris.

Buckle: John Charles, (Final), Flat 11, 'Hillcairn', St. Andrews Road, Droitwich, Worcs. L. C. Lomas, W. Usher, G. R. Hutton.

Burgess: George Brian, (Final), Marsden House, Buxton Road, High Lane, nr. Stockport, Cheshire. Cecil Stewart, L. C. Howitt, Edgar Sutcliffe.

Burns: Eric Edward, (Final), 32, Rahn Road, Epping, Essex. T. E. Scott, C. G. Bath, S. F. Burley.

Burt: Roger George, (Final), 51 Ringstead Road, Catford, S.E.6. J. R. Edwards, T. H. B. Burrough, and applying for nomination by the Council under Bye-law 3(d).

Butterworth: Norman Alan, (Final), Marsh Farm, Fort Road, W. Tilbury, Essex. Applying for nomination by the Council under Bye-law 3(d).

Calderhead: James Charles, (Final), 'Waveney', St. Mary's Road, Ditton Hill, Surbiton, Surrey. Philip Powell, Hidalgo Moya, Eric Lyons.

Caldwell: William David Morris, D.A.(Edin.) (Edinburgh Coll. of Art: Sch. of Arch.), 3 Vanbrugh Fields, Blackheath, S.E.3. Applying for nomination by the Council under Bye-law 3(d).

Cantwell: Frank J., (Final), Avalon, 8 Belgrave Road, Blackrock. Co. Dublin. Raymond McGrath, J. O'H. Hughes, J. J. Robinson.

Cassidy: Liam, B.Arch.(L'pool) (Liverpool Sch. of Arch., Univ. of Liverpool), 38 Ivy Terrace, Londonderry, N. Ireland. Prof. R. Gardner-Medwin, Thomas Slater, A. G. Bullen.

Caswell: Philip Henry, (Special Final), 1, Elm Walk, Radlett, Herts. L. A. Butterfield, N. A. Royce, R. J. Harrison.

Clapham: (Miss) Jean Erica Shirley, (Final), 4 Lapse Wood Walk, S.E.23. A. D. R. Caroe, A. P. Robinson, T. Carr.

Collens: Geoffrey Alan, Dipl.Arch.(Leeds) (Leeds Sch. of Arch.), 35 Maresfield Gardens, Hampstead, N.W.3. F. Chippindale, D. A. Fowler, Basil Spence.

Combs: Harold, (Final), 12 Withenfield Road, Northern Moor, Manchester, 23. Cecil Stewart, L. C. Howitt, E. S. Benson.

Cove: Roland Ernest, (Special Final), 11, Creighton Avenue, St. Albans, Herts. J. C. Clavering, C. V. Ponder, R. T. Boutall.

Cowell: Philip Maurice, M.A.(Cantab.), (Final), 58 Hurrell Road, Cambridge. W. P. Dyson, A. C. Crook, W. E. Marston.

Czewowski: Jacek Stanislaw, (Special Final), 19, Bourne Street, S.W.1. Thomas Ritchie and applying for nomination by the Council under Bye-law 3(d).

Dabrowski: Jerzy Henryk, (Final), Stratford-upon-Avon Borough Council, Municipal Offices, Rother Street, Stratford-upon-Avon, Warwickshire. Thomas Ritchie, G. R. Barnsley, Henry Fedeski.

Darrington: Paul William James, (Final), 52 Roundwood Way, Banstead, Surrey. E. D. J. Mathews, A. G. Nisbet, C. G. Stillman.

Davey: Jack William, (Special Final), 119 Bridge Road, Willesden, N.W.10. A. G. MacDonald, G. C. Wilson, Cecil Masey.

Davis: Cecil Fenwick, (Special Final), 15 Walnut Green, Bushey, Herts. G. A. Crockett, L. S. Stanley, E. R. Taylor.

Davis: John David Tremaine, A.R.I.C.S., (Special Final), 'Hurstbourne', West Down Road, Bexhill-on-Sea, Sussex. Edgar Bunce, L. S. Rider, C. F. Callow.

Davis: Kenneth Sidney Ansell, (Final), 31 Shirley Avenue, Shirley, Croydon, Surrey. J. S. Walkden, Paul Nightingale, Dr. R. Herz.

Deaves: Alan Roy, (Special Final), 48 Manchester Street, W.1. C. E. M. Fillmore, Allan Johnson, N. E. S. Morris.

Dees: Adrian Nigel, (Final), 'Oldhurst', 13 Broomy Hill, Hereford. W. Usher, Dr. T. A. Lloyd, Lewis John.

De Mott: Lionel Thomas, (Final), 4 Marlowe Court, Parkstone Avenue, Southsea, Hants. A. C. Townsend, J. V. Nisbet, Frank Mellor.

Dietz: John Edward Michael, Dip.T.P.(Dunelm) (Final), 'Sunnyridge', 58 Lyndhurst Grove, Low Fell, Gateshead, 9. Prof. W. B. Edwards, Prof. J. S. Allen, Bruce Allsopp.

Dixon: Thomas, (Special Final), 35 Glenview Road, Bromley, Kent. E. R. Collister, Denis Senior and applying for nomination by the Council under Bye-law 3(d).

Dobson: Victor, (Final), 12 Park Street, Windsor, Berks. J. Konrad, W. G. Wilson, J. P. Taylor.

Dod: Kenneth Logan, (Special Final), 43 Doughty Street, Gray's Inn, W.C.1. E. B. Webber, D. du R. Aberdeen, J. B. F. Cowper.

Dodgson: Granville Trevor, (Final), 75 Harehills Avenue, Leeds, 8. F. Chippindale, D. A. Fowler, Kenneth Turner.

Dolman: Alan, (Special Final), 39 Peveril Road, Beeston, Nottingham. D. E. E. Gibson, Ernest Frear, H. H. Dawson.

Douglas-Maul: Brian Alistair, (Leeds Sch. of Arch.), Top Flat, 16 Smirthwaite Street, Wakefield, Yorks. F. Chippindale, D. A. Fowler, A. W. Glover.

Dowling: Jack William, (Special Final), 5 Sephton Avenue, Culcheth, nr. Warrington, Lancs. T. L. Viney, H. S. Macdonald, H. T. Seward.

Downing: Clifford, (Final), 74 Wheellys Road, Edgbaston, Birmingham. C. E. M. Fillmore, Geoffrey Cox, Herbert Jackson.

Downs: (Miss) Allison, (Special Final), 38 Holland Street, W.8. Frank Scarlett, Harold Baily, T. A. Eaton.

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Thompson: Hugh Terence, (Special Final), 42 Etherstone Avenue, Newcastle upon Tyne, 7. D. L. Couves, Arnold Applegarth, R. N. Mackellar.

Tilley: John Charles, (Special Final), 29 Warwick Road, Southampton. J. V. Nisbet, A. C. Townsend, P. McG. Corsar.

Tucker: Donald Stanley, (Special Final), 'Downerry', Waterloo Road, Crowthorne, Berks. A. P. Lloyd, L. A. Chackett, L. A. Culliford.

Wall: John David Crozier, Dip.Arch.(Leics.) (Leicester Coll. of Art and Tech.: Sch. of Arch.), 10 Burghley Mansions, Broadway, Peterborough. S. Penn Smith, F. H. Jones, G. A. Cope.

Wallhouse: (Miss) Barbara Meru, Dipl.Arch. (U.C.L.) (Bartlett Sch. of Arch.: Univ. of London), 121 Hincley Road, Leicester Forest East, Leicestershire. J. H. L. Owen, T. W. Haird, T. A. Collins.

Walshaw: Robert David, B.Arch.(L'pool) (Liverpool Sch. of Arch.: Univ. of Liverpool), 56 Sandy Lane, West Kirby, Wirral, Cheshire. Prof. R. Gardner-Medwin, Herbert Thearle, T. N. Mitchell.

West: George Edmund, (Final), 4 Russell Road, W.14. D. L. Bridgwater, K. M. B. Cross, Michael Patrick.

White: (Mrs.) Margaret Lucy Mary (née Butters) (Final), 38A Sutton Court Road, Sutton, Surrey. Hubert Lidbetter, H. M. Lidbetter, and applying for nomination by the Council under Bye-law 3(d).

Widdup: George, A.R.I.C.S., (Special Final), 7 Colwyn Avenue, Morecambe. L. C. Holbrook, U. A. Coates, A. T. Nicholson.

Williams: Norman Glyn, B.Arch.(L'pool) (Liverpool Sch. of Arch.: Univ. of Liverpool), 5 Breton Avenue, Bebington, Wirral. Prof. R. Gardner-Medwin, Dr. Ronald Bradbury, R. R. Young.

Willis: Frederick Alfred, (Special Final), 13 Medway Close, Chelmsford, Essex. A. Douglas Jones, G. B. A. Williams, A. R. Dannatt.

Wilson: John Kirkwood, (Final), 141 Southbrae Drive, Jordanhill, Glasgow, W.3. F. R. Wylie, Walter Underwood, A. G. Henderson.

Wolpert: Donald Brian John, (Final), 'The Chalet', The Dell, West Bay, Maenporth Hill, nr. Falmouth, Cornwall. J. H. Crowther, T. H. B. Burrough, A. G. Bazeley.

Wood: James Henry, (Special Final), St. Stephens, 35 Links Avenue, Felpham, Bognor Regis, Sussex. G. J. Cuzens, T. Sibthorp, Raglan Squire.

Woolnough: Gerald James, (Special Final), 5 Eton Avenue, New Malden, Surrey. F. C. Button, E. Playne, C. E. Wilford.

Worboys: Raymond John, (Special Final), 11 Arbutus Close, Meadvale, Redhill, Surrey. P. Hickey, James Maitland, Terence Page.

Wornell: Arthur John Charles, (Special Final), 25 Gordon Road, Leigh-on-Sea, Essex. E. H. Firmin, P. F. Burridge, J. M. Scott.

Worth: Kenneth Frederick George, (Special Final), 92 Tern Close, Tilehurst, Reading, Berks. E. U. Channon, T. L. J. Chamberlain, E. S. Smith.

Worts: James Bernard, (Final), 12, Upthorpe Drive, Wantage, Berks. P. A. Shreeve, G. J. Cuzens, Raglan Squire.

Wright: Eric, (Final), 93 Carrhill Road,

Mossley, nr. Manchester, Lancs. G. B. Howcroft, Cecil Stewart, R. M. McNaught.

Yabsley: John Frederick, (Final), 'Grey Robin', 37 Blacketts Wood Drive, Chorleywood, Bucks. W. J. Reed and applying for nomination by the Council under Bye-law 3(d).

Young: David, (Final), 19A Bond Street, Yeovil, Somerset. T. H. B. Burrough, W. R. Cooper and applying for nomination by the Council under Bye-law 3(d).

Young: John Kenneth, (Special Final), 41 Richmond Drive, Watford, Herts. J. R. Young, B. C. Sherren, H. B. Elkington.

ELECTION: 6 MAY 1958

An election of candidates for membership will take place on 6 May 1958. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Friday 2 May 1958.

The names following the applicant's address are those of his proposers.

AS FELLOWS (5)

Crocker: Montague Ernest, [A 1947], Acting City Architect and Building Surveyor, City Hall, Singapore; 72 Woodleigh Park, Singapore, 13. W. I. Watson, K. A. Brundle, H. L. Bloomfield.

Ghista: Phiroz Jehangir, [A 1952], P.W.D., B. & R., The Mall, Patiala, India; 7D Bhupinder Nagar, Patiala. N. B. Shroff, J. P. J. Bilimoria, Walter George.

Nathaniels: Ray James Holman, Dip.Arch. (The Polytechnic) [A 1944], c/o Barclays Bank, Nassau, Bahamas. J. K. Hicks, Hubert Bennett, E. C. Scherrer.

Overall: John Wallace, M.C. and Bar, A.S.T.C. (Arch.) [A 1946], Director of Architecture, Commonwealth Department of Works, Yarra Street, Hawthorn, Melbourne, Australia; 24, Boston Road, Balwyn, Melbourne. G. L. Moline, W. P. R. Godfrey, E. K. Mackay.

Thornton: Peter M., F.R.A.I.C., A.A.Dipl. [A 1939], Messrs. Gardiner, Thornton, Gathe and Associates, 1520 Alberni Street, Vancouver, 5, British Columbia, Canada; 1303 Matthews Avenue, Vancouver, 9. J. H. Wade, Prof. E. R. Arthur, J. C. Parkin.

AS ASSOCIATES (7)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

Fish: Hirsh Leon, B.Arch.(C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), 5th Floor, Joelson House, Union Avenue, Salisbury, S. Rhodesia. C. A. Knight, C. E. Robson, L. F. R. Coote.

Jarrett-Yaskey: Joseph Ransford, A.A.Dipl. (Arch.Assoc.(London): Sch. of Arch.), c/o P.W.D. Freetown, Sierra Leone, West Africa. Arthur Korn, R. F. Jordan, H. G. Goddard.

Jayaraman: Mahadeva Iyer, (Final), 52, United India Colony, Kodambakkam, Madras 24, India. J. C. Nilgiri, M. G. Desai, L. M. Chitale.

Kan: Raymond Yat Kum, B.Arch.(Melbourne) (Passed a qualifying Exam. approved by the R.A.I.A.), 406 Ma Tau Wai Road, 4th Floor, Kowloon City, Kowloon, Hong Kong. Prof. B. B. Lewis, R. G. Parker, Mrs. Hilary Lewis.

Martin: Peter Gordon, (Passed a qualifying Exam. approved by the R.A.I.A.), School of Architecture, Gordon Institute of Technology,

Geelong, Victoria, Australia. Harry Winbush, Harold Bartlett, E. K. Mackay.

Mollison: Allan William, B.Arch.(Auck., N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 33 Landsdowne Street, South Invercargill, New Zealand. Prof. C. R. Knight, Prof. A. C. Light and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3(a).

Simpson: Lewis Fordell, B.Arch.(Auck., N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 218 Gala Street, Invercargill, New Zealand. Prof. C. R. Knight, Prof. A. C. Light and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3(a).

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. H. Benson Ansell [A], Deputy Borough Architect of Bournemouth, has been appointed Deputy Architect (Administration) of the West Riding of Yorkshire, in succession to Mr. A. W. Glover [F] who is now the County Architect. He took up his duties on 20 January.

Mr. Lawrence H. Bond [L], who is in partnership with Mr. Robert W. Read [A] at 44 Castlegate, Grantham, has been appointed Architect to Lincoln Cathedral by the Dean and Chapter.

Mr. D. H. S. Prince [F] has resigned from the position of Chief Architect to the Wellington City Council to take up the appointment of Architect to the Nelson Education Board, P.O. Box 36, Nelson, New Zealand. His private address is now 190 Main Road, Stoke, Nelson, New Zealand.

Mr. T. S. Singer [A] has been appointed Deputy City Architect of Bristol.

Mr. Walter Smith [A] has resigned his position as Architect-in-charge, Buildings Branch, Swaziland Government Public Works Department, to take up appointment as Building Surveyor, City Architect's Department, Cleveland House, Salisbury, S. Rhodesia, where he will be pleased to receive trade catalogues, etc.

Mr. John A. Ware [A] who was with Urban Planning Consultants, Toronto, has been appointed Architect-Planner to Kitimat New Town, British Columbia. His address will be P.O. Box 4830, Riverside Postal Station, Kitimat, B.C.

PRACTICES AND PARTNERSHIPS

Mr. Hugh F. Cochrane [L] has commenced practice at 4 South Parade, Bedford Park, London, W.4, where he will be pleased to receive trade literature.

The practice of Messrs. Copcutt, Hancock and Associates (Geoffrey Copcutt [A], T. R. Hancock [A] and John E. Yarrow Hawkes [A]), of 1 St. Martins, Leicester, has been dissolved by mutual consent.

Mr. G. Trevor Edge [A] and **Mr. M. J. Peto** [A] have commenced partnership at Farmers Mutual House, Moffat Street, Salisbury, S. Rhodesia, where they will be pleased to receive trade literature.

Mr. R. A. Furlong [A] has resigned from partnership in the firm of Messrs. P. G. Budgen and Partners of Cardiff, and is now in practice

on his own account at 68 Park Place, Cardiff (Cardiff 22497).

The partners of Messrs. Gotch, Saunders and Surrage (J. D. McArthur [A], K. J. Allsop [A] and R. C. Jeffery, A.R.I.C.S.) of Kettering and Corby have taken as associates, with effect from 1 January 1958, Mr. Brian Austin [A] and Mr. Peter Taylor [A].

Mr. W. H. Gunton [F] has retired from partnership in the firm of Messrs. Gunton and Gunton, but will continue in association with the firm in the capacity of consultant. The firm will be continued by the other partners under the same name.

Mr. Howard Kelly [F] has taken Mr. John J. Atkinson [A] into partnership under the style of Howard Kelly and Partners, at 11 Duke Street, Manchester Square, London, W.1 (Welbeck 3995).

The partnership hitherto existing between Mr. C. S. Kimpton [F], Mr. E. J. Campling, and Mr. Richard Iliffe, has been dissolved by mutual consent. Mr. Kimpton will continue to practise from Mount Lodge, Sunningdale, Berks (Ascot 300).

Mr. Malcolm H. Peck [A] is now practising on his own account from 15 Friary Street, Guildford (Guildford 66363), where he will be pleased to receive trade catalogues.

CHANGES OF ADDRESS

Miss A. P. Armstrong [A] has changed her address to Barleys, Grantley Close, Shalford, Guildford, Surrey.

Mr. Michael P. Bates [A] has changed his address to 12 Inglewood Road, West Hampstead, London, N.W.6, where he will be pleased to receive trade catalogues.

Messrs. Victor Bloom and Partners [AA] have changed their address to 171 New Bond Street, London, W.1 (MAYfair 5822-3).

The principal office of Mr. Philip R. Burrows [L] is 26 Congleton Road, Sandbach, Cheshire, and is additional to his office at Crewe.

Mr. Peter Clapham [A] has changed his address to 86 The Hall, Foxes Dale, Blackheath, London, S.E.3.

Mr. E. D. Colley [A] has changed his address to 33 Whitefield Road, Penwortham, Preston, Lancs.

Mr. N. A. Cowburn [A] has changed his address to 9 West 69th Street, New York, 23, N.Y., U.S.A.

Mr. Eric de Maré [A] has changed his address to 3 Stanley Crescent, London, W.11 (Park 7187).

Messrs. Edwards and Webster (P. W. Edwards, A.M.T.P.I. [F], D. A. S. Webster, M.A., A.M.T.P.I. [A] and L. V. Bacon [A]) have opened a branch office at 19 Silver Street, Trowbridge, Wilts (Trowbridge 3803). The firm will continue to practise from its offices at Chippenham and Devizes, but will be glad to receive trade catalogues at the Trowbridge address.

The address of Mr. James Westwater Ferrie [A] of Messrs. James W. Ferrie and Partners is now Commercial Union Buildings, 11 Robinson Road, Singapore 1.

Mr. J. Granger-Taylor [A] has changed his address to 18 St. Mary Abbots Terrace, London, W.14 (WESTern 4994).

Mr. Denis A. L. Hanford [A] has changed his address to 175 Romsey Road, Winchester, Hants (Winchester 5722).

Mr. G. Holland [A] has changed his address to 24 Carstens Street, Griffith, Canberra, A.C.T., Australia.

Mr. Anthony D. Jacobs [A] has changed his address to 63 Forest Road, Loughborough. His telephone number remains Loughborough 3682.

Mr. John Leaning, M.Arch. (McGill), B.Arch. (L'pool), [A] has moved to 304 The Driveway, Ottawa, Ontario, Canada (Central 3 9455), where he will be pleased to receive trade catalogues.

Mr. O. Howard Leicester [F] has changed his address to c/o Bank of Montreal, Jasper Avenue, Edmonton, Alberta, Canada.

Councillor P. G. Marks, Dip.Arch.(Birm.) [A], has changed his address to 19 Highfield Road, Moseley, Birmingham, 13 (South 1578).

From the end of this month the address of Mr. R. Frank Marshall [A] will be Oakbourne, Woodside Road, Sevenoaks, Kent.

Mr. P. A. T. Richardson [A] has changed his address to c/o Architects Department, Department of Works, Canberra, Australia.

Mr. D. Shorten [A] has changed his address, to 38 Rock Lane, Linslade, Leighton Buzzard Beds.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate (32), educated at Sherborne and A.A., with five years' general experience in London practice in charge of handling projects, is now looking for responsible post in established provincial practice with view to partnership. South or south-west England preferred. Capital available. Box 2, c/o Secretary, R.I.B.A.

Associate, Dip.Arch. (28), public school, in own practice, seeks partnership with larger firm. Experience in research and development, schools, housing, offices, etc., and in industrial design. Some capital available. Box 10, c/o Secretary, R.I.B.A.

Fellow (43), with London office and own ten-year-old small, general, widely-based practice, wishes to amalgamate with larger practice in London or Surrey where expanding opportunities for creative work exist. Box 14, c/o Secretary, R.I.B.A.

Associate (32) seeks responsibility and hard work as partner, preferably in Scotland but not essential. Considerable experience of schools, housing and general work. Limited capital available. Box 16, c/o Secretary, R.I.B.A.

Associate would like to purchase practice or partnership in small practice with principal anticipating retirement during the next three or four years. At present teaching and running own small practice. Some small jobs in hand and reasonable prospects of future work. Capital available. Particularly interested in British Commonwealth and Empire countries. Box 18, c/o Secretary, R.I.B.A.

Member, with old-established practice, contemplating retirement, wishes to dispose of house and practice situated on north-western outskirts of London. Minimum capital required £8,000, but substantial mortgage could be arranged. Box 19, c/o Secretary, R.I.B.A.

Associate (31) well qualified, and with varied experience in housing, brewery, industrial and school work, requires partnership or position leading to early partnership. Capital available. Box 20, c/o Secretary, R.I.B.A.

Wanted for old-established Midlands practice, qualified assistant with view to partnership.

Full particulars to Box 21, c/o Secretary, R.I.B.A.

Associates, husband and wife, returning to England in summer, wish to buy small practice. Seller to remain with practice as adviser, if possible. Box 22, c/o Secretary, R.I.B.A.

Fellow, with wide experience at home and abroad, and with good connections, prepared to work his way to partnership in a suitable firm where prospects exist, preferably in or near London; or capital and own office available for immediate working partnership, or other arrangement. Box 23, c/o Secretary, R.I.B.A.

Associate, Dip. Arch.(Birm.) (34), seeks partnership or position leading thereto in West Midlands. Experience in industrial and domestic work gained in private practice in England and for two years in North America. Contemporary outlook, can show examples of own work. Capital available and some contacts. Box 24, c/o Secretary, R.I.B.A.

ACCOMMODATION

Associate has small office available with share of small general office in Westminster area. £5 per week, inclusive of rates, heating, lighting, cleaning and share of telephonist services. Box 15, c/o Secretary, R.I.B.A.

Members leaving office accommodation in Sackville Street, London, W.1, offer moiety share in three-room suite. £140 per annum exclusive. Overheads shared with other professional firm. For full particulars and permission to view write to Box 17, c/o Secretary, R.I.B.A.

Fellow with offices in Baker Street, London, W.1, wishes to rent part to architect or quantity surveyor. Small private office 106 sq. ft., half share of typist's office, share drawing office (partial north light) suitable for three persons, plan chests, etc., small reception hall, newly decorated. Reasonable rent. Box 25, c/o Secretary, R.I.B.A.

The Royal Institute of British Architects, as a body, is not responsible for statements made or opinions expressed in the JOURNAL.



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The Architect is always exposed to the risk that allegations of negligence with claims for damages may be made against him in connection with his work. It is true, of course, that frequently such claims prove to be unfounded, but legal expenses—often very heavy—must be incurred in refuting the allegations. Costs awarded against an unsuccessful claimant may in fact be irrecoverable.

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OFFICES UNDER WATER

Space-saving arrangement for Bowaters

The 'stalk' of Bowaters 143 foot high water tower at Northfleet accommodates, so far, six floors of office and storage space. The tank—which holds 200,000 gallons and serves the whole of the vast paper mill and provides water for the emergency sprinkler system—is carried on six reinforced concrete columns which are set back from the angles of the hexagonally planned base. The floor slabs are also reinforced concrete and carry the cladding—Williams & Williams 'Aluminex' Patent Glazing.

The whole exterior is anodized aluminium and glass. Aluminium glazing bars (and cover strips), aluminium purpose-made horizontal centre-hung windows, and aluminium faced 'Asbestolux' spandrel panels. The whole installation is designed to afford the maximum corrosion resistance in this heavy industrial atmosphere—and it is easily kept in new condition by periodical washing down, a cradle runway being incorporated in the underside of the tank.

'Aluminex' Patent Glazing was specified for three main reasons:

- 1** Its low cost.
- 2** Its 'clean' exterior appearance.
- 3** The fact that the glazing bars can readily be supplied anodized.

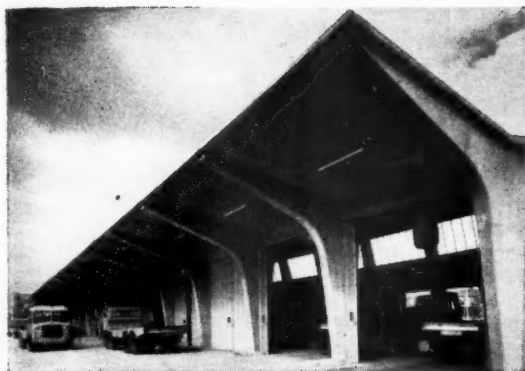
'Aluminex' is also used in the excitingly designed Transport Centre and is scheduled for the Machine House, due for completion later in 1958, which will house one of the largest paper-making machines in the world.

*Water Tower: Bowaters United Kingdom
Pulp and Paper Mills Limited,
Thames Division, Northfleet, Kent.
Architects: Farmer and Dark, F.F.R.I.B.A.
Quantity Surveyors: E. C. Harris & Partners.
Contractors: Bierrum & Partners Limited.*

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3 Typical applications of 'Aluminex'

WALLSPAN

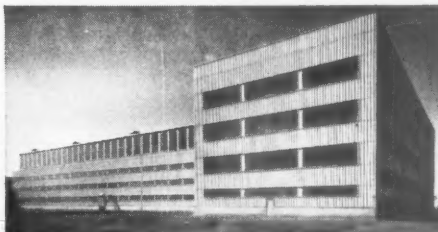
saves on a small building

'Wallspan' was specified for the cladding of the Romford printing works of Wilson & Whitworth Ltd. only after careful costing by the Architect. He calculated that 'Wallspan', because it would enable roof and floor construction to be carried on uninterrupted by the erection of external masonry walls, would be an economy even on a building as small as this. After a detailed post-mortem, so it proved to be: 'Wallspan' effected a saving in time and cost when compared with good quality traditional construction. Another noteworthy feature of this contract is the unusual infilling panels of artificial stone.

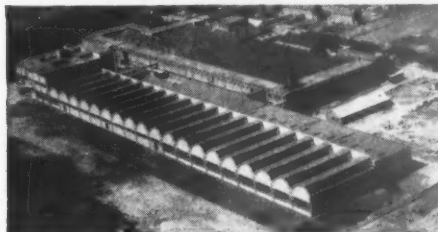
New Office and Works for Wilson & Whitworth Ltd., Romford, Essex.
Architect: Messrs. J. W. Hammond, L./R.I.B.A.



Transport Centre: Bowaters Services
and Transport Limited.
Architects: Farmer and Dark, F/R.I.B.A.
Quantity Surveyors: E. C. Harris & Partners.
Contractors: Higgs & Hill Ltd.



1 Sidewall glazing at the new plant of Ferranti Ltd., Toronto.
Consulting Engineers: Byan, Mackay & MacFarlane



2 North light glazing at Scribbans-Kemp Bakeries Ltd., Grimsby.
Architects: William Saunders & Partners.
Partner-in-Charge: B. G. Gibson, L.R.I.B.A.



3 Purpose-made decklights at the Darlington College of Further Education.
Architect: E. A. Tornbohm, A.R.I.B.A., A.M.T.P.I., Darlington Borough Architect.

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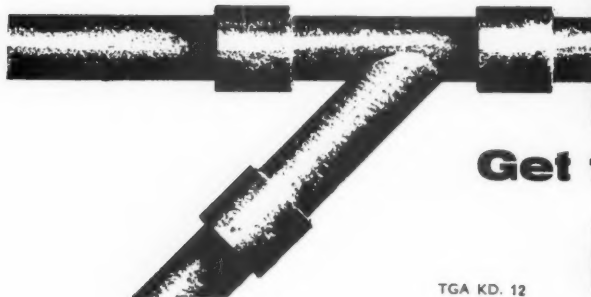
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A typical run of Key pipe on a Wolverhampton housing site. This scheme has been designed and carried through by the Wolverhampton Corporation under the supervision of the Borough Engineer and Surveyor, and Director of Housing, W. Mervyn Law, M.B.E.



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TGA KD. 12

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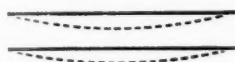
Smooth bore and clean joints

Key Pitch Fibre pipes have precision-machined taper joints which require no mortar or compounds. Combined with their smooth bore, this means a high flow factor, with no problems of root growth.



No cracking through settlement

The resilience of pitch fibre pipes ensures that no cracking occurs under normal conditions of earth settlement. This also means that bedding concrete is unnecessary.



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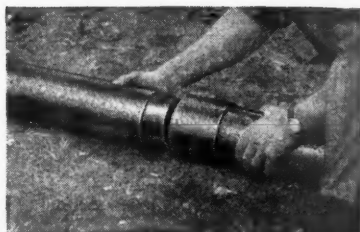
Key pipes are vacuum-impregnated with pitch and are non-porous and resistant to normal effluent corrosives throughout their thickness.

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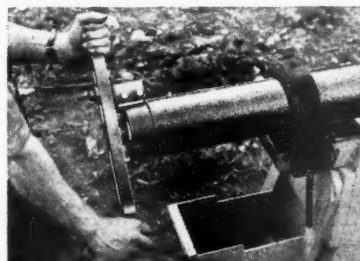
A piece of heavy timber is placed against the coupling and a length knocked home.



The precision-machined taper joints require no mortar or jointing compounds.



Short lengths of pipe can be cut with a coarse toothed handsaw.



A special hand lathe is used for re-tapering joints on short lengths.

SPEEDING THE JOB—CUTTING THE COST

500 feet an hour is a modest rate for laying Key pipes. The simple system of jointing also ensures that the pipe can be laid in all weathers. Because there is no cement to dry out, the completed drain can be tested immediately and the trench back-filled without delay. When contracts must be carried out to a tight schedule these advantages are well worth bearing in mind. On a cost plus labour basis, pitch fibre pipes are cheaper per installed foot run than other drainage systems.

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D.S.I.R.—Building Research Station
Institution of Public Health Engineers
London County Council

Ministry of Health Model Bye Laws

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Building Research Station Report

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Other approving bodies

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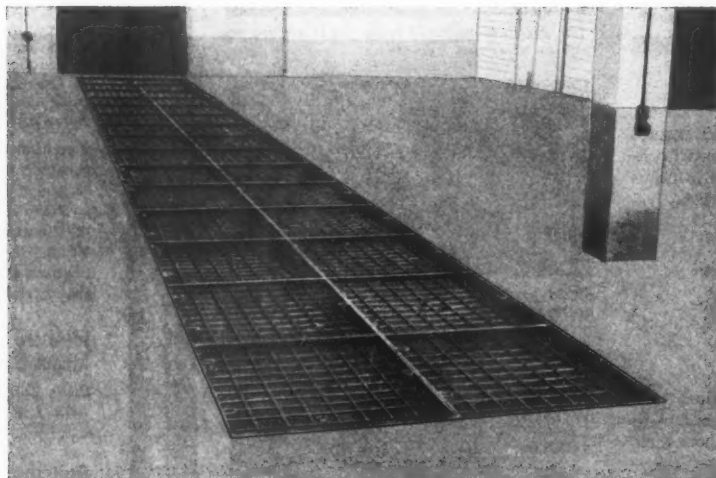
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Doesn't this linoleum floor at Kidbrooke School, Kent, add up to good sense? A lot of people think so: the architect who finds in linoleum's vast palette the precise decorative effect he requires; the authorities who know that a school floor must stand up,

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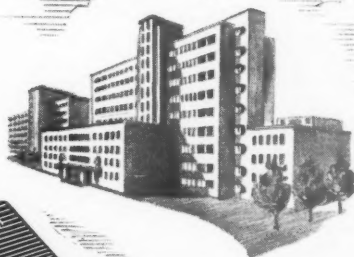
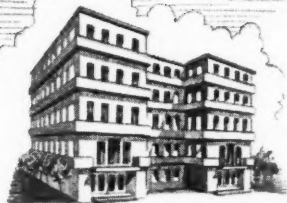
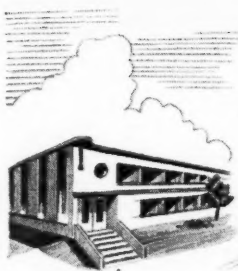
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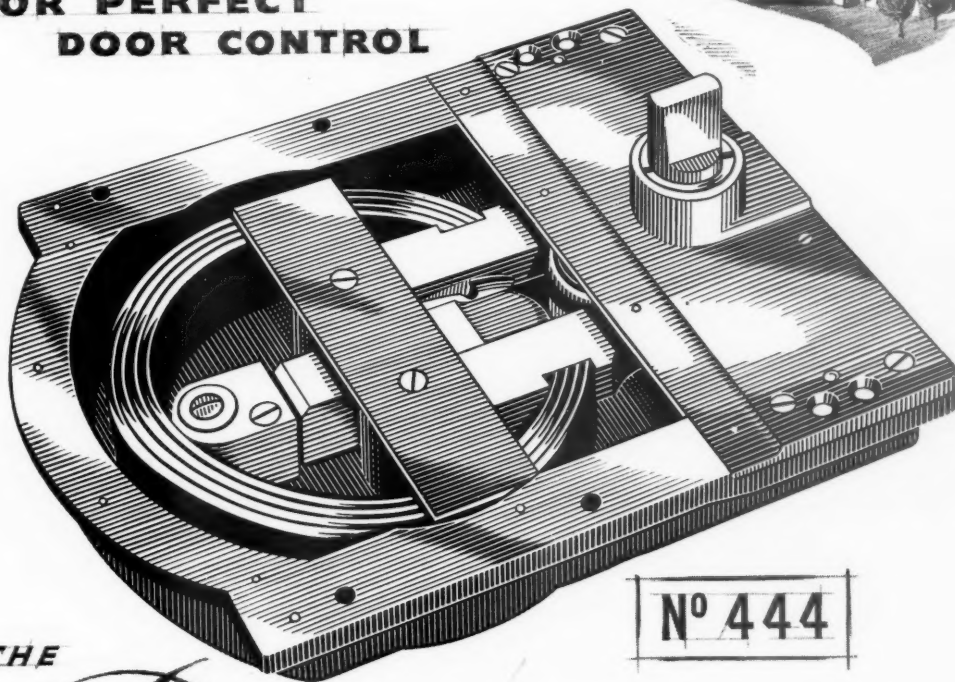
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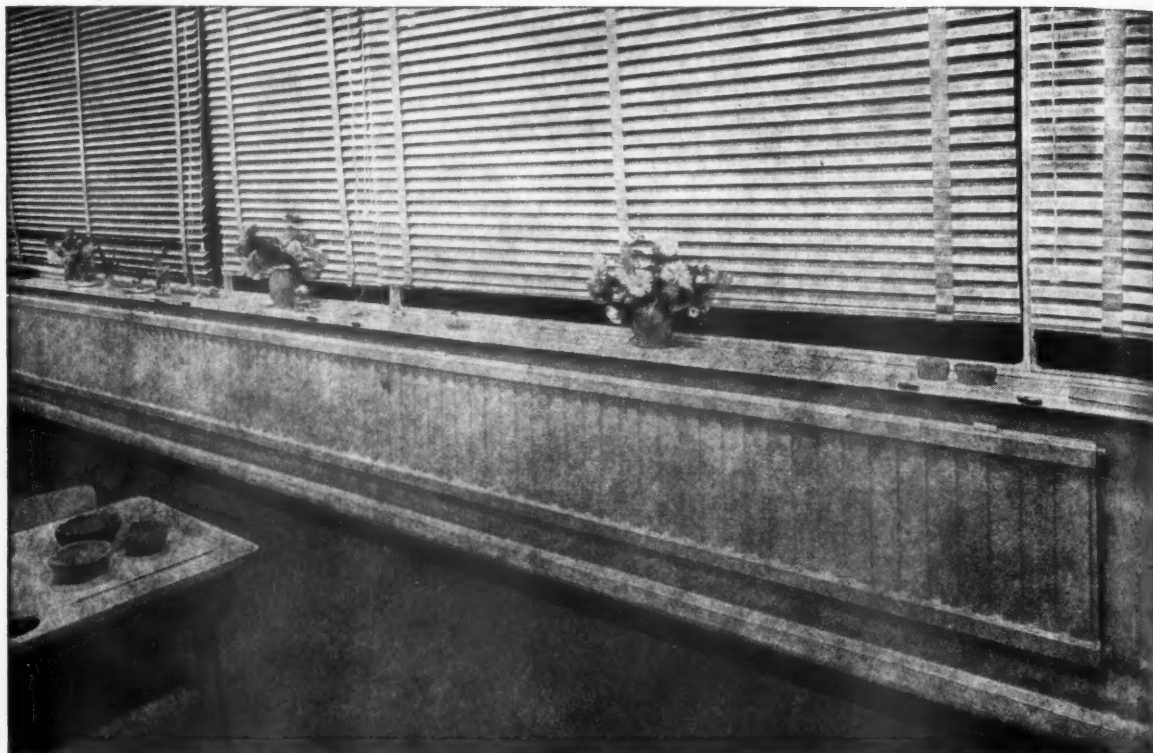
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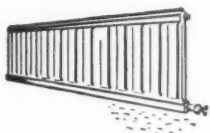
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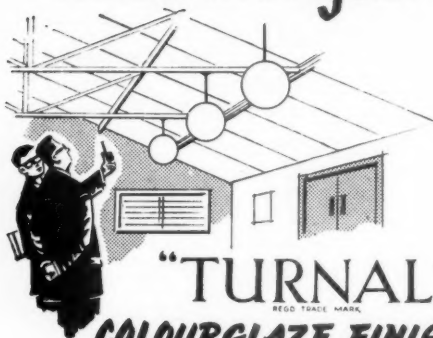
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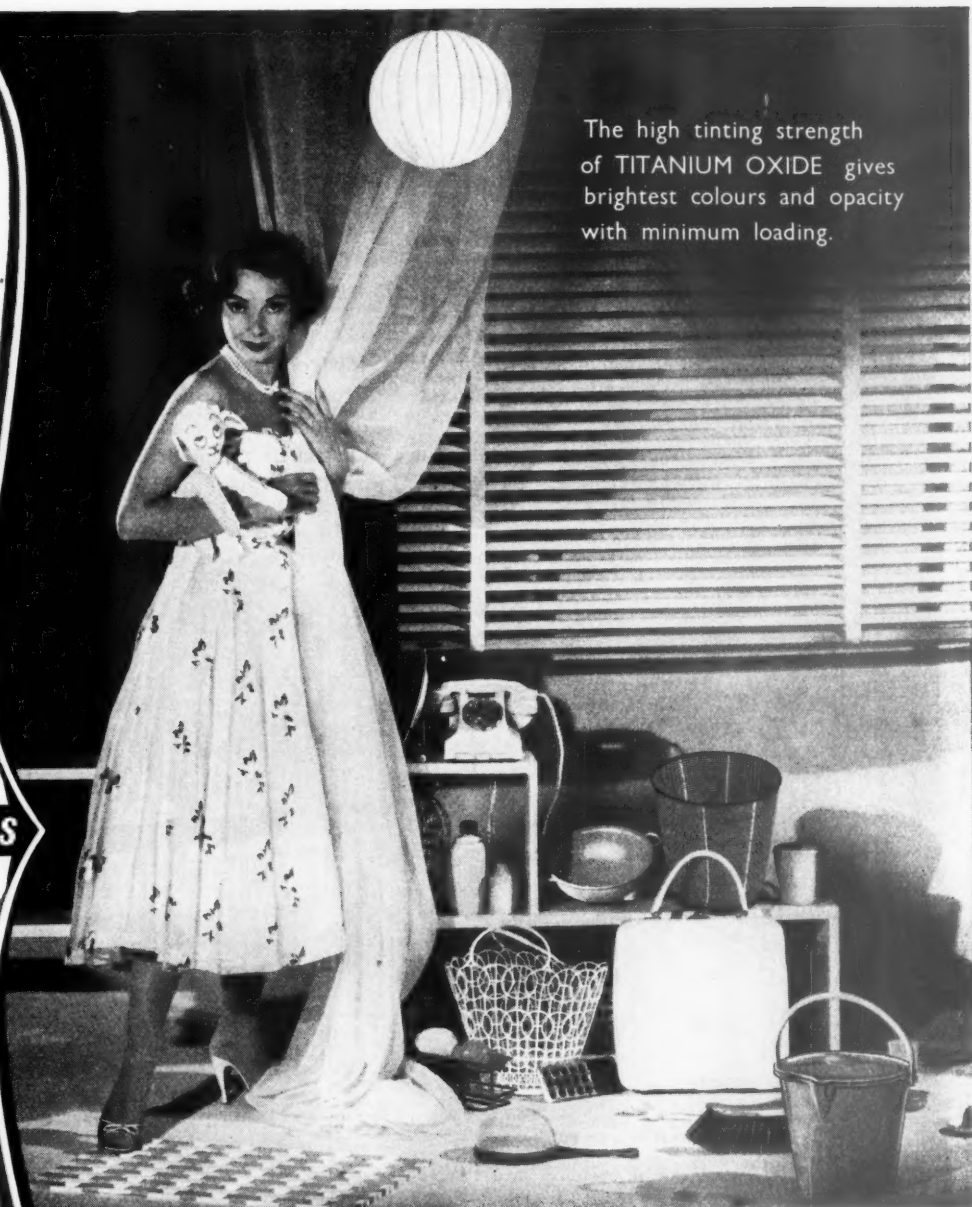
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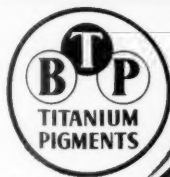
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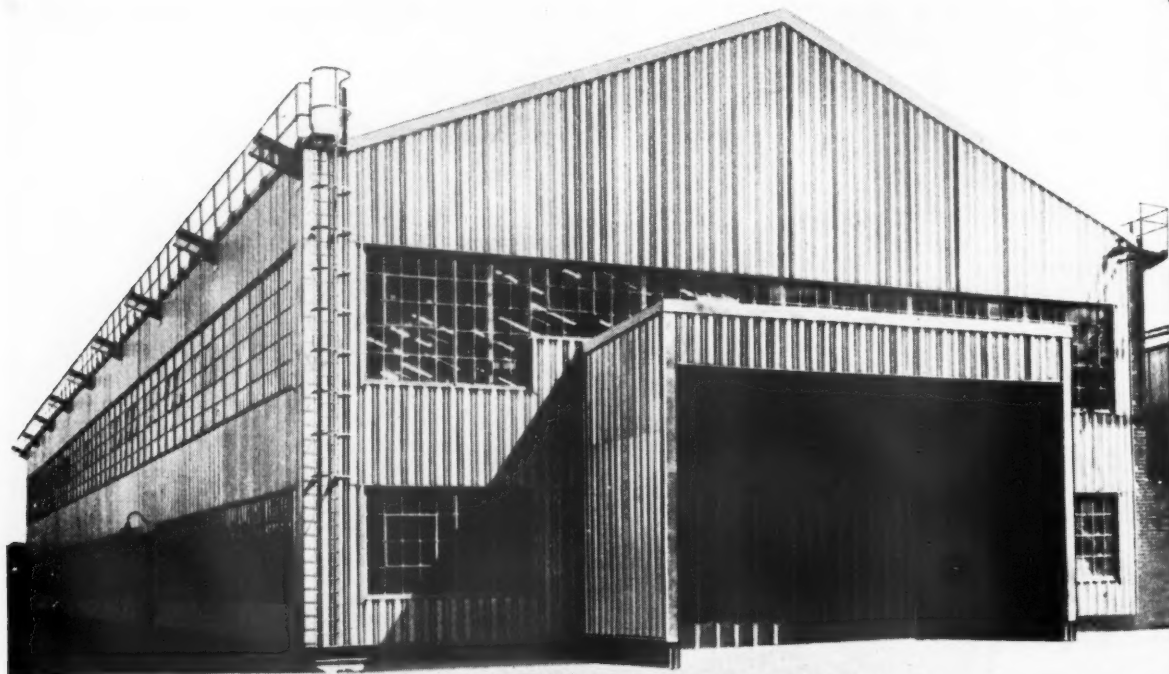
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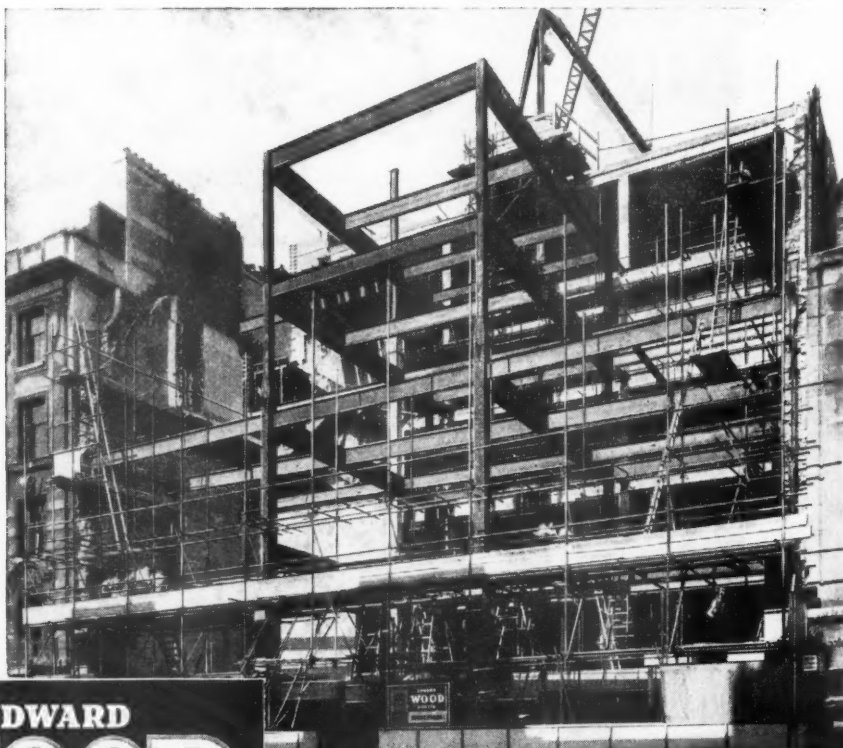
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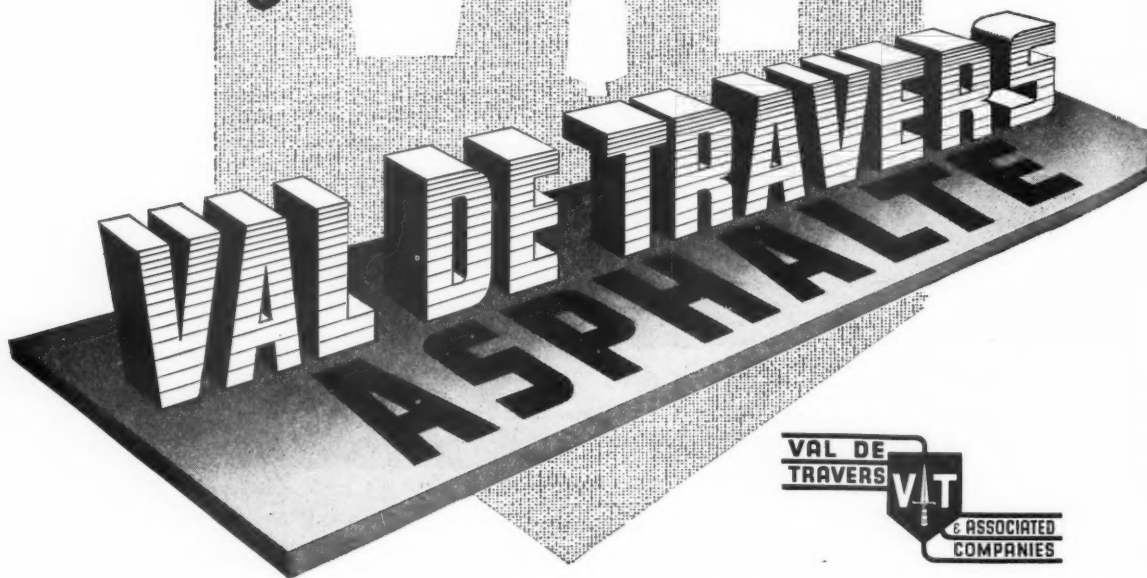
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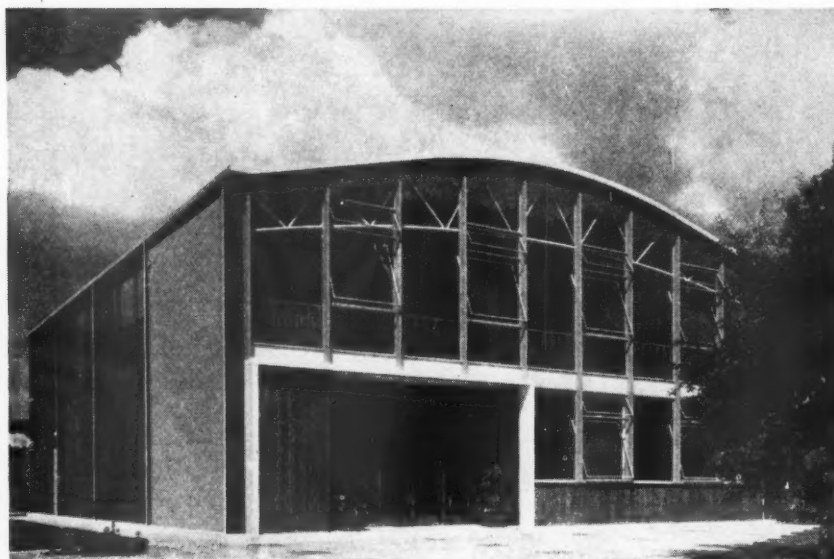
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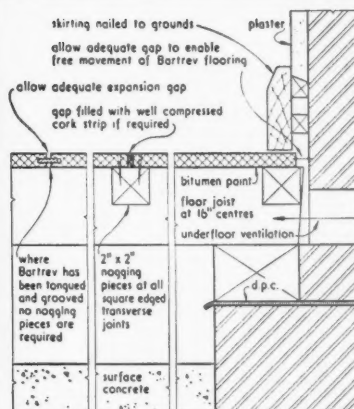
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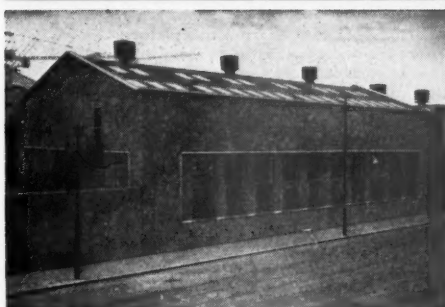
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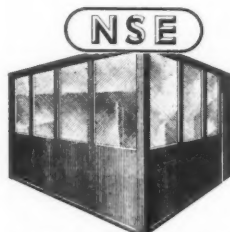
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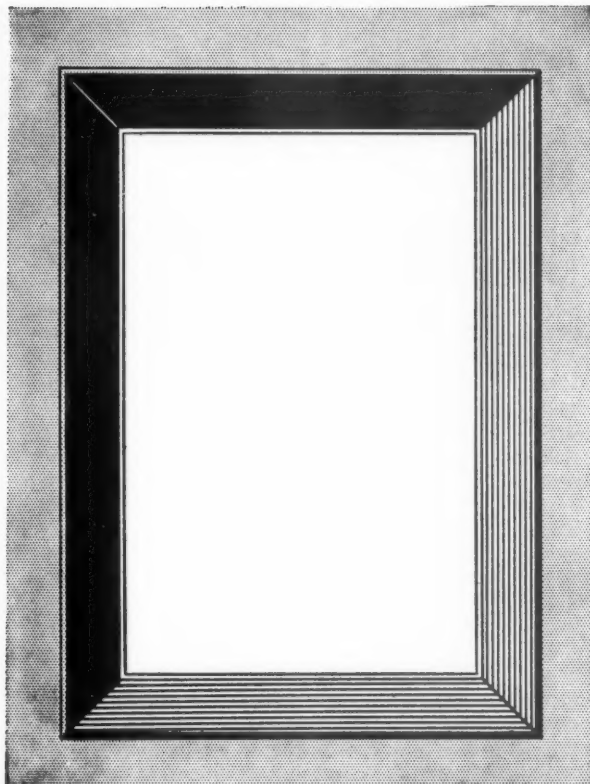
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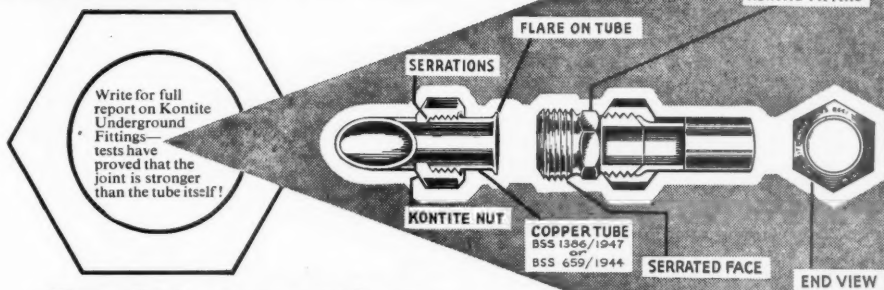
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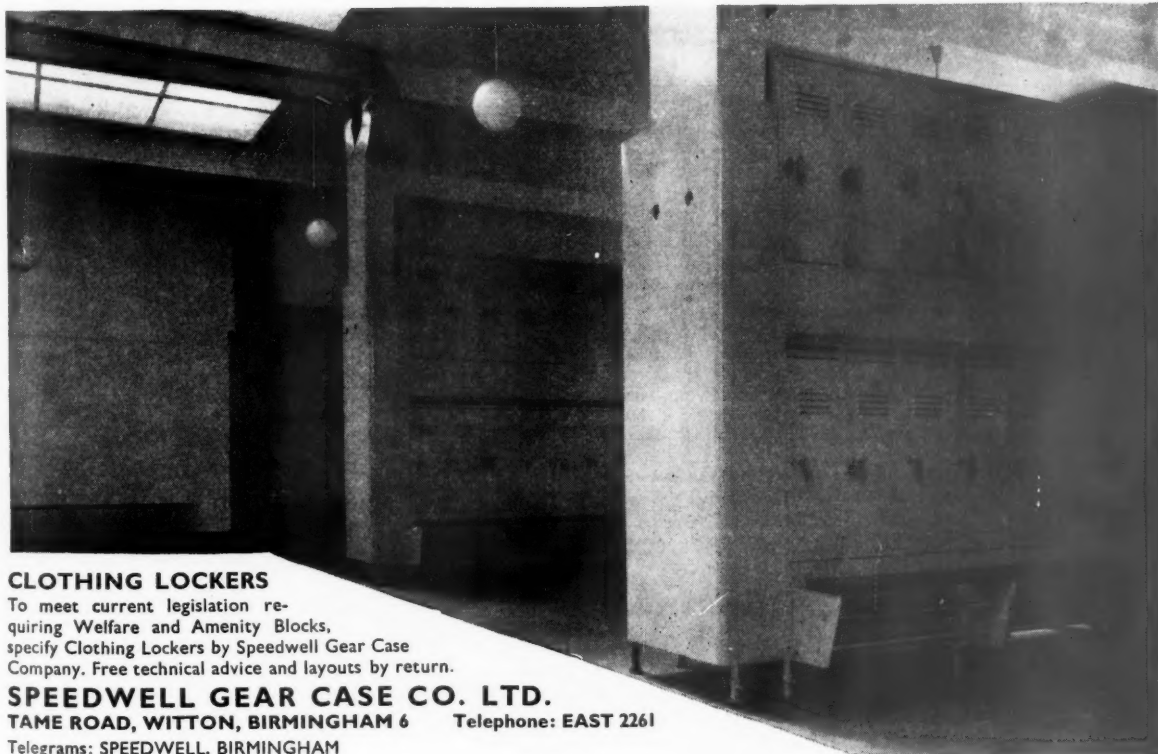
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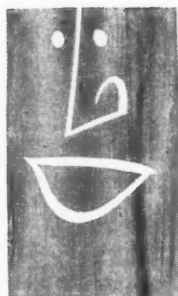
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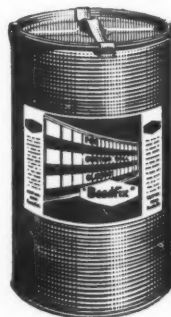
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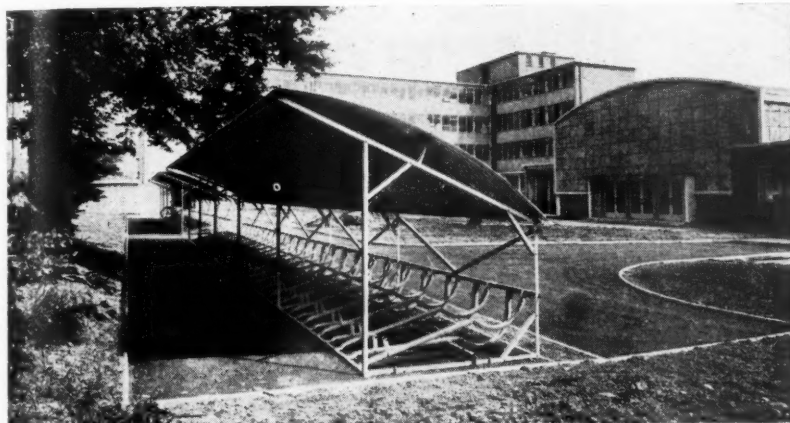
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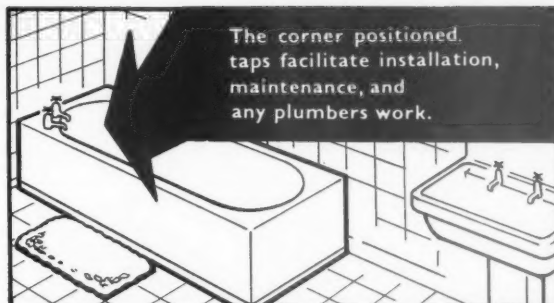
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